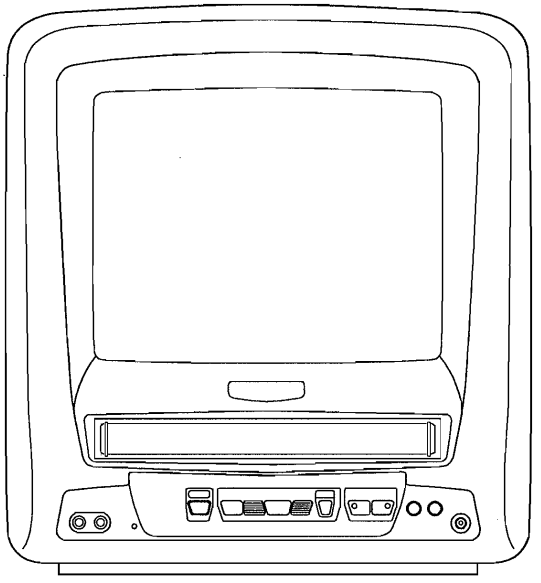
Symphonic

SERVICE MANUAL

Sec. 1: Main Section	Sec. 2: Deck Mechanism Section	Sec. 3: Exploded Views and Parts List Section
● Specifications ● Preparation for Servicing ● Adjustment Procedures ● Schematic Diagrams ● CBA' s	● Standard Maintenance ● Alignment for Mechanism ● Disassembly/Assembly of Mechanism	● Exploded Views ● Parts List

9"COLOR TV/VCR COMBINATION

SSC099



JUN. 15. 1999

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

MAIN SECTION

9" COLOR TV/VCR COMBINATION

SSC099

Sec. 1: Main Section

- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA' s**

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SPECIFICATIONS

* Mode --------SP mode unless otherwise specified
* Test input terminal
  <Except Tuner> ----------Video input (1Vp-p)
  Audio input (-10dB)
  <Tuner> ----------Ant. input (80dBμV) Video: 87.5%
  Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	±5
2. Linearity	Horizontal	%	—	12
	Vertical	%	—	10
3. High Voltage	—	kV	18	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.3
	Corner	m/m	—	1.5
	Side	m/m	—	1.2
2. Tint Control Range	—	deg	±30	—
3. Contrast Control Range	—	dB	6	—
4. Brightness	APL 100%	ft-L	30	—
5. Color Temperature	—	K	9200	—

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P)	Line	230	200
2. Jitter (Low)	(R/P)	μS	0.05	0.2
3. S/N Chroma AM (SP)	(R/P)	dB	38	33
PM (SP)	(R/P)	dB	36	33
4. Wow & Flutter (RMS)	(R/P)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	43	40

<AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power (Max.)	(R/P)	W	0.8	0.6
2. Audio S/N (W/LPF)	(R/P)	dB	40	36
3. Audio Distortion (W/LPF)	(R/P)	%	3.0	5.0
4. Audio Freq. Response (-10dB Ref. 1KHz)	200Hz (R/P) 8kHz (R/P)	dB dB	-2.0 0	-2.0 ± 5.0 0 ± 6.0

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

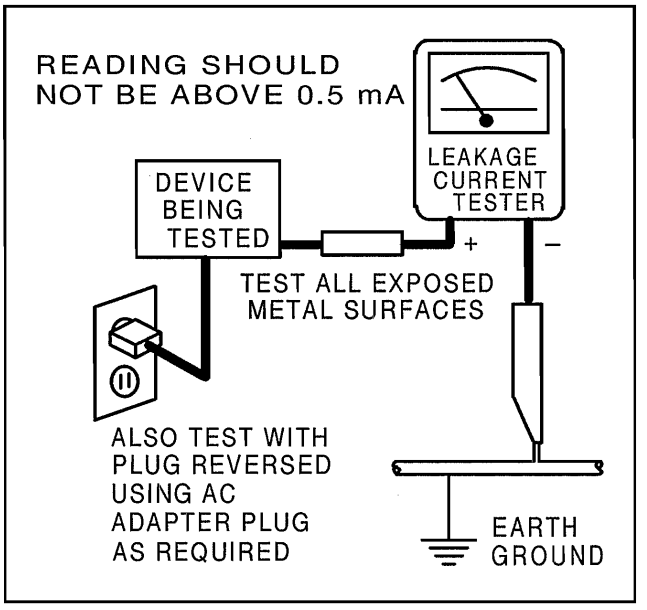
1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:

a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. Antenna Cold Check - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. Leakage Current Hot Check - With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. X-Radiation and High Voltage Limits - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing

is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. **Hot Chassis Warning -**

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis normally have 85V AC(RS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not is- olated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (⚠) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continu- ously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the (⚠) symbol are critical for safety.

Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.

Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing

2) Double insulated wires

3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape

2) PVC tubing

3) Spacers

4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets. etc.) do not remain inside the set.

K. Crimp type wire connector

When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.

Replacement procedure

1) Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector (discard it).

2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the VCR connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
110 to 130 V	USA or CANADA	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

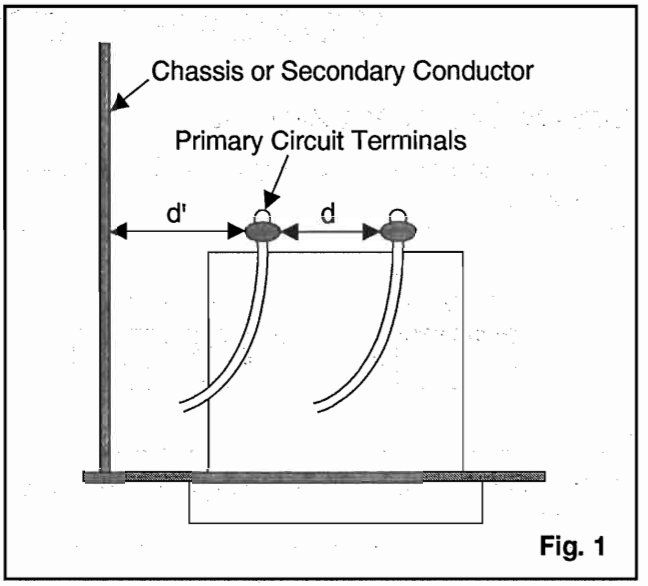


Fig. 1

2. Leakage Current Test

Confirm specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

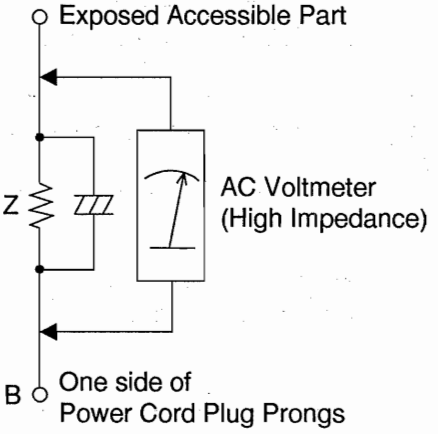


Fig. 2

Table 2 : Leakage current ratings for selected areas

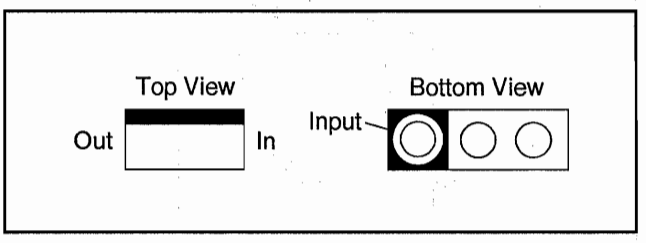
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA or CANADA	0.15μF CAP. & 1.5kΩ RES. connected in parallel	i≤0.5mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

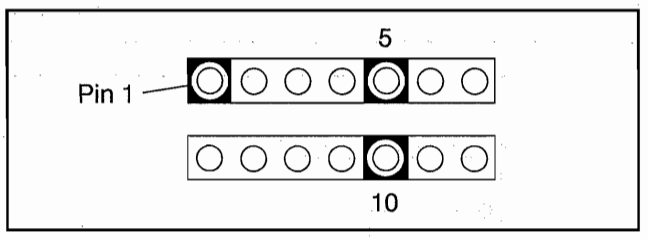
STANDARD NOTES FOR SERVICING

Circuit Board Indications

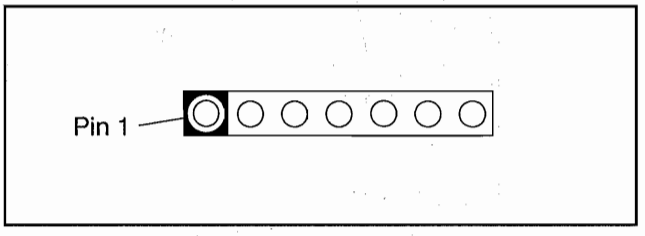
1. The output pin of the 3 pin Regulator ICs is indicated as shown:



2. For other ICs, pin 1 and every 5th pin is indicated as shown:

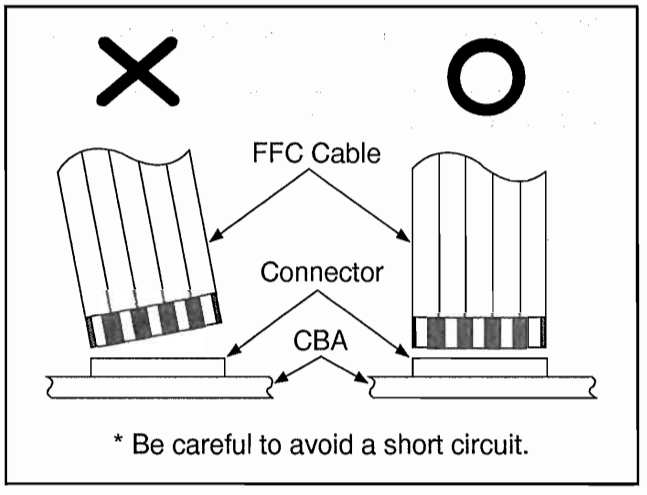


3. The 1st pin of every pin connector are indicated as shown:



Instructions for Connectors

1. When you connect or disconnect FFC cable (connector), be sure to disconnect the AC cord.
2. FFC cable (connector) should be inserted parallel into the connector, not at an angle.

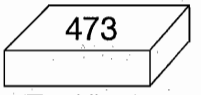


[CBA= Circuit Board Assembly]

How to Read the Values of the Rectangular Type Chip Components

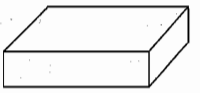
Example:

(a) Resistor



= 473 = 47 [kΩ] (Top View)

(b) Capacitor



= Not Shown (Top View)

Caution:

Once chip parts (Resistors, Capacitors, Transistors, etc.) are removed, they must not be reused. Always use a new part.

Replacement Procedures for Leadless (Chip) Components

The Following Procedures are Recommended for the Replacement of the Leadless Components Used in this Unit.

1. Preparation for replacement

a. Soldering Iron
Use a pencil-type soldering iron (less than 30 watts).

b. Solder
Eutectic solder (Tin 63%, Lead 37%) is recommended.

c. Soldering time
Do not apply heat for more than 4 seconds.

d. Preheating
Leadless capacitor must be preheated before installation. (130°C~150°C, for about two minutes.)

Notes:

a. Leadless components must not be reused after removal.

b. Excessive mechanical stress and rubbing for the component electrode must be avoided.

2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes has melted, remove leadless component with a twisting motion.

Notes:

a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by the twisting action.

b. Take care not to break the copper foil on the printed board.

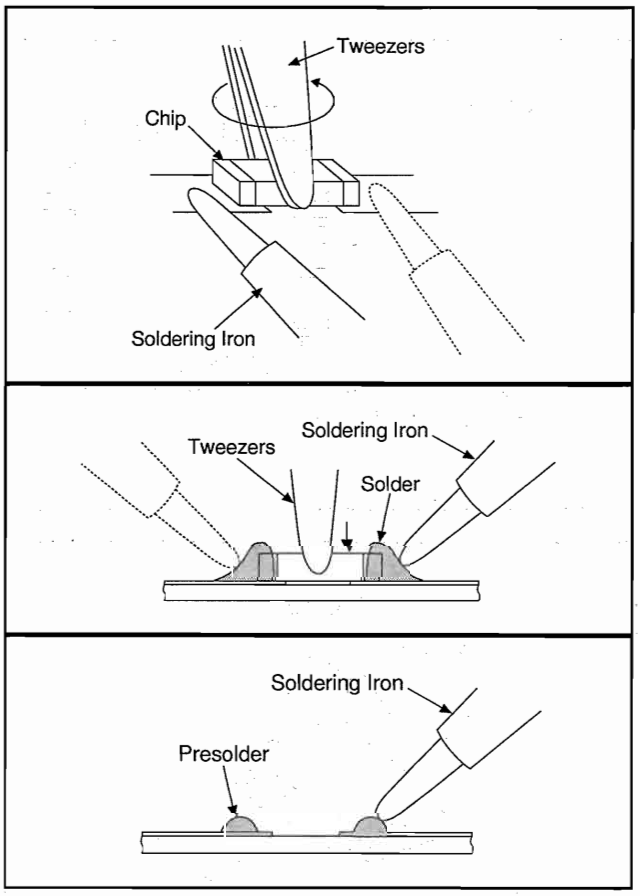
3. Installing the leadless component

a. Presolder the contact points of the circuit board.

b. Press the part downward with tweezers and solder both electrodes as shown below.

Note:

Do not glue the replacement leadless component to the circuit board.



How to Remove / Install Flat Pack IC

Caution:

1. Do not apply the hot air to the chip parts around the Flat Pack-IC for over 6 seconds as damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The Flat Pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or solder lands under the IC when removing it.

1. Removal

With Hot - Air Flat Pack - IC Desoldering Machine:

a. Prepare the Hot - Air Flat Pack - IC Desoldering Machine, then apply hot air to Flat Pack - IC (about 5~6 seconds). (Fig. S-1-1)

b. Remove the Flat Pack- IC with tweezers while applying the hot air.

With Soldering Iron:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Lift each lead of the Flat Pack - IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine. (Fig. S-1-4)

With Iron Wire:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

c. Pull up on the wire as the solder melts so as to lift the IC leads from the CBA contact pads, while heating the pins using a fine tip soldering iron or hot air blower.

Note:

When using a soldering iron, care must be taken to ensure that the Flat Pack - IC is not being held by glue, or when it is removed from the CBA, it may be damaged if force is used.

2. Installation

a. Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack - IC on the CBA, so you can install a replacement Flat Pack - IC more easily.

b. The "●" mark on the Flat Pack - IC indicates pin 1 (See Fig. S-1-6). Make sure this mark matches the 1 on the CBA when positioning for installation. Then pre - solder the four corners of the Flat Pack- IC (See Fig. S-1-7).

c. Solder all pins of the Flat Pack - IC. Make sure that none of the pins have solder bridges.

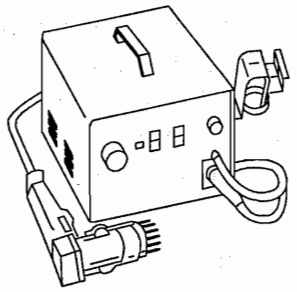


Fig. S-1-1

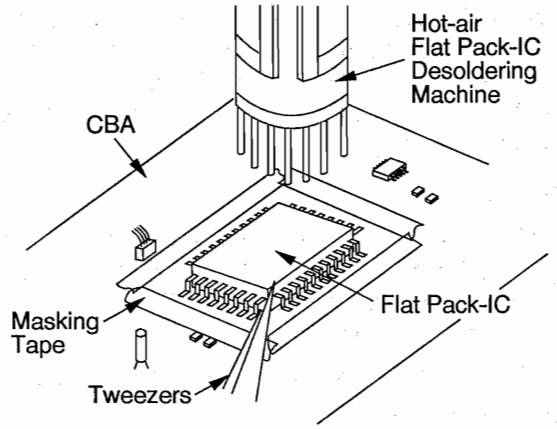


Fig. S-1-2

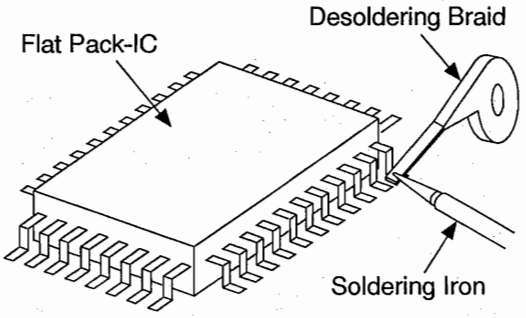


Fig. S-1-3

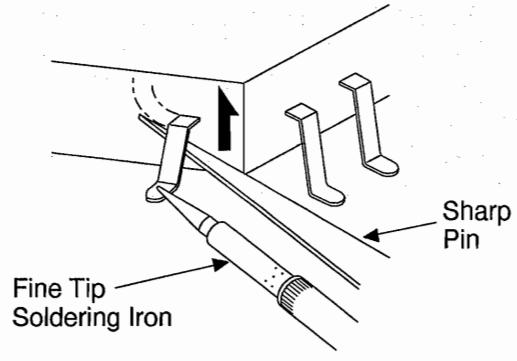


Fig. S-1-4

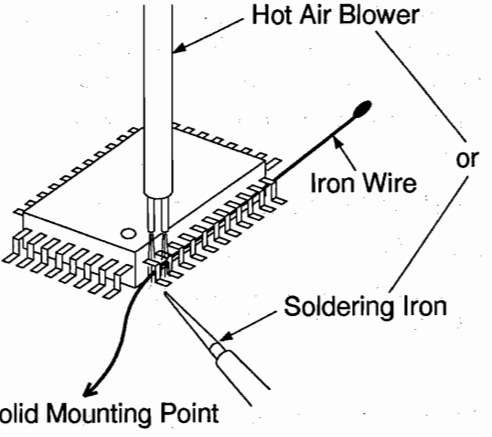
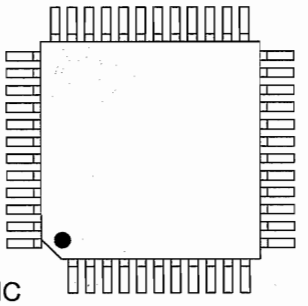


Fig. S-1-5

Example :



Pin 1 of the Flat Pack-IC
is indicated by a " ● " mark.

Fig. S-1-6

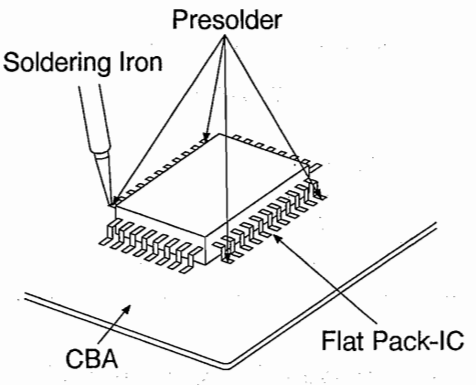


Fig. S-1-7

Instructions for Handling Semiconductors

Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

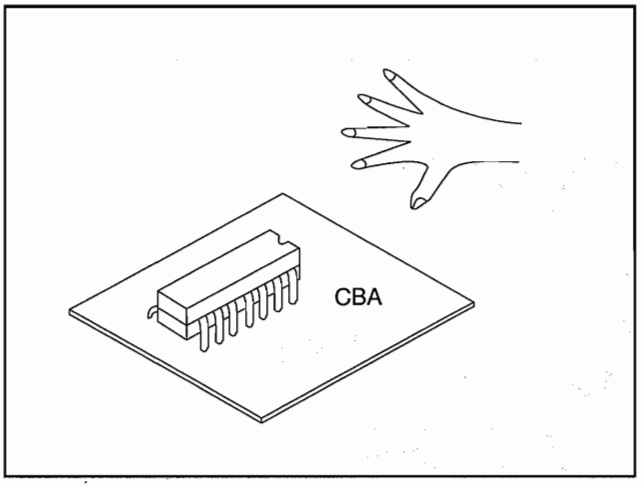
Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

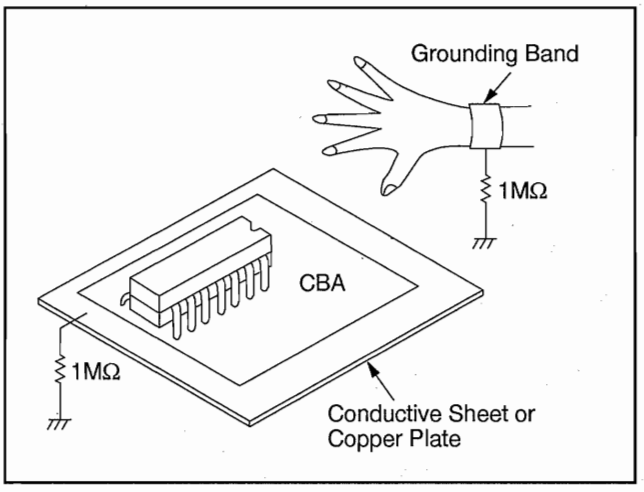
Ground for Work Bench

Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the work bench or other surface, where the semiconductors are to be placed. Because the static electricity charge on the clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors to clothing.

Incorrect



Correct



PREPARATION FOR SERVICING

How to Use U19 Deck Extension Cable

(1) Remove Deck Mechanism Assembly. If needed, remove the Main CBA from Tray Chassis.

Refer to " Disassembly Instructions" on page 1-6-1.

(2) Connect Main CBA and Deck with the U19 Deck Extension Cable (A) as shown in Fig. 1. And connect Main CBA and Deck with U19 Deck Extension cable (B) as shown in Fig. 1. Connect the 2 clips to the Shield plate on the Main CBA.

(U19 Deck Extension Cable : N1200XA)

Note 1: There are 3 types of U19 Deck Extension Cable (A). They are for 2 Head, 4 Head, and Hi-Fi. Use a connector indicated as shown. Be careful not to let the unused connector contact other parts.

Note 2: Some noise will be present in the playback picture when the extension cable is used.

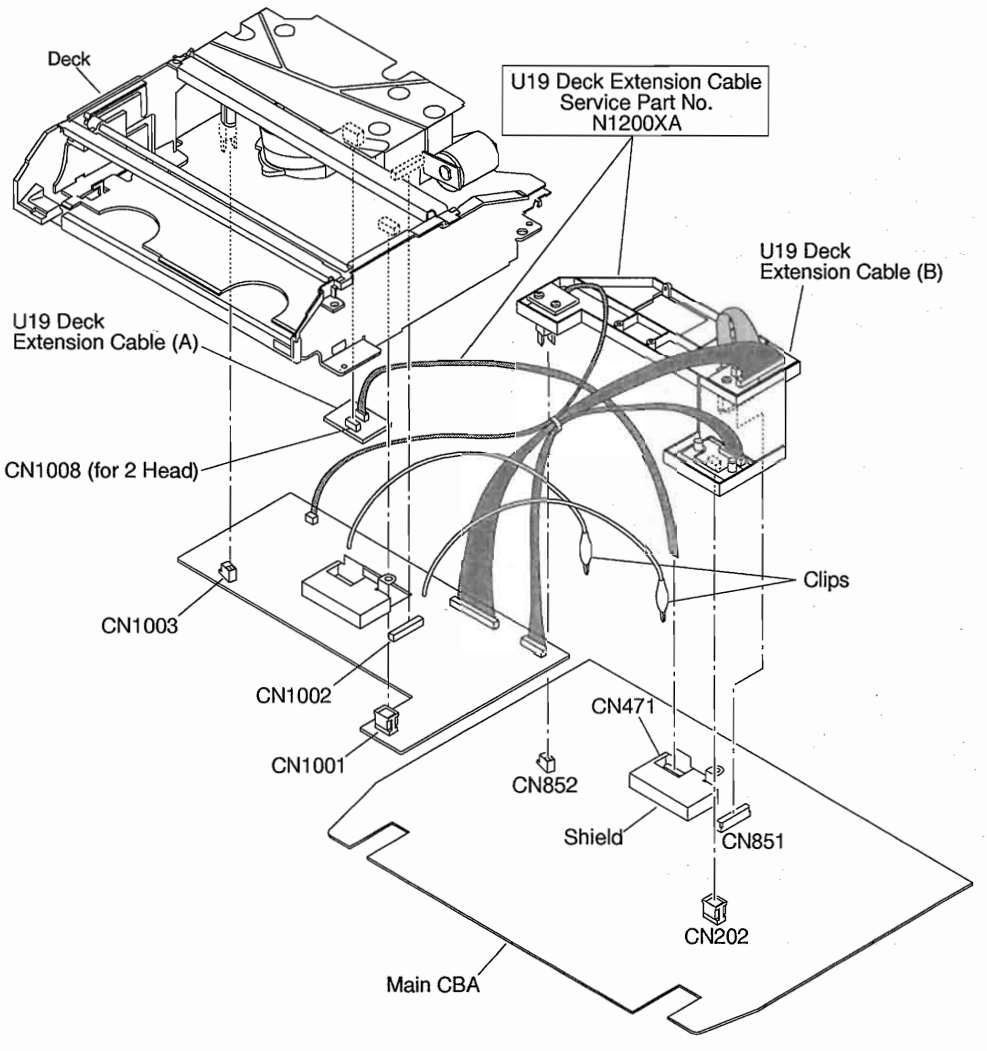


Fig. 1

How to Enter the Service Mode

Caution: 1

1. Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing: 1

1. Cover Q203 (START SENSOR) and Q202 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

1. Turn Power On.
2. Press Remote Control keys as following order.

   MENU-->MUTE-->PAUSE-->MUTE
3. When enter the Service Mode, One of the Number (1 , 2 or 4) will display at corners of the Screen.
4. During the Service mode, Electrical Adjustment Mode can be selected by Remote Control key.

   Details are as follows.

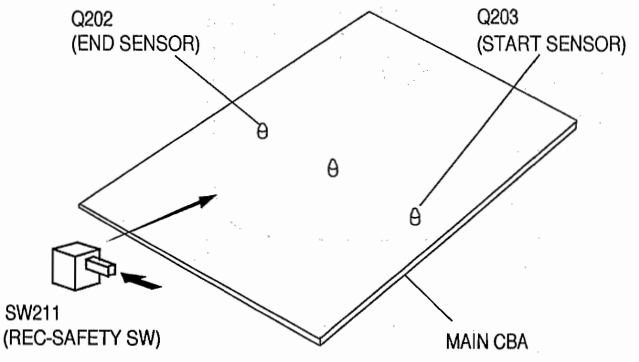
Key	Adjustment Mode
MENU	Picture Adjustment Mode : Press the MENU button to change from BRT (Bright), CNT (Contrast),and TNT(Tint). and Press CH UP/DOWN key to display Initial Value, Maximum and Minimum cyclically.
0	Hf_0/C-Trap Adjustment Mode: See Adjustment Instructions Page 1-7-2~3 .
1	V-Size, V-Shift and H.Shift Adjustment Mode. See Adjustment Instructions Page 1-7-3.
2	AGC Adjustment Mode: See Adjustment Instructions Page 1-7-2.
3	AFT Adjustment Mode: See Adjustment Instructions Page 1-7-2.
4	Auto Record Mode: Perform Recording (15 Sec.)-->Stop-->Rewind (Zero Return) automatically.
5	Head Switching Point Adjustment Mode: See Adjustment Instructions Page 1-7-5.
6	Static Convergence Adjustment Mode: Shows 1 dot color on the center of the screen. Press CH UP/DOWN key to change the color White and Magenta.
7	Purity Check Mode: Shows Red, Green or Blue on the screen when the CH UP/DOWN keys are pressed.
8	Cut-off Adjustment Mode: Shows only Horizontal Line. See Adjustment Instructions Page 1-7-4.

Caution: 2

1. The deck mechanism assembly is mounted on the Main CBA directly, and SW211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

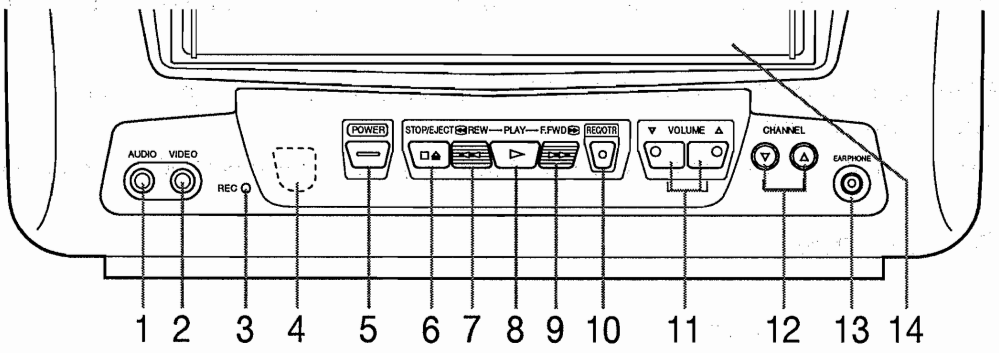
Preparing: 2

1. To eject the tape, press the STOP/EJECT button on the unit (or Remote Control).
2. When you want to record during the Service mode, press the Rec button while depressing SW211 (REC-SAFETY SW) on the Main CBA.



OPERATING CONTROLS AND FUNCTIONS

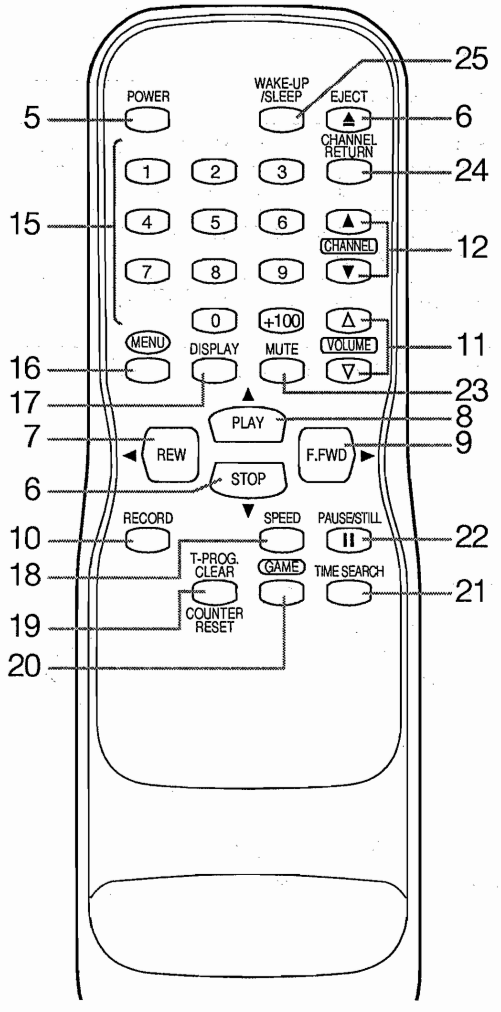
- TV/VCR FRONT PANEL -



NOTE:

We do not recommend the use of universal remote controls. Not all of the functions may be controlled with a universal remote control.
If you decide to use a universal remote control with this unit, please be aware that the code number given may not operate this unit. In this case, please call the manufacturer of the universal remote control.

- REMOTE CONTROL -

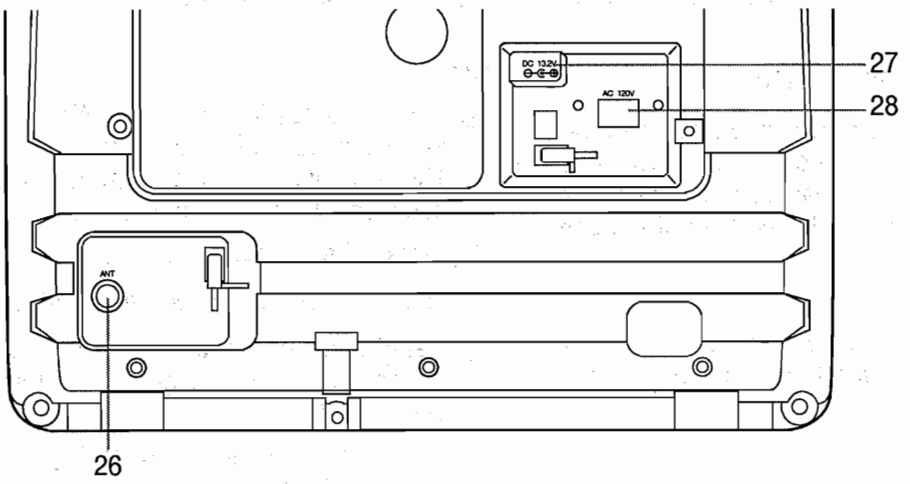


1. **AUDIO input jack–** Connect to the audio output jack of your audio equipment, video camera or another VCR.
2. **VIDEO input jack–** Connect to the video output jack of your video camera or another VCR.
3. **RECORD indicator–** Flashes during recording.
   Lights up in the Stand-by mode for Timer Recording.
4. **Remote Sensor Window–** Receives the infrared signals from the remote control.

5 **POWER button–** Press to turn TV/VCR on and off. Press to activate timer recording.

6. **STOP button –**Press to stop the tape motion.
   EJECT button– Press in the Stop mode to remove tape from TV/VCR.
   ▼ **button–** Press to select setting modes from the on screen menu. Press to enter digits when setting program. (for example: setting clock or timer program)
7. **REW button–** Press to rewind the tape, or to view the picture rapidly in reverse during playback mode. (Rewind Search)
   ◄ **button–** Press to select a mode from a particular menu. (for example: LANGUAGE or USER'S SET UP)
8. **PLAY button–** Press to begin playback.
   ▲ button–Press to select setting modes from the on screen menu.Press to enter digits when setting program. (for example: setting clock or timer program)

- REAR VIEW -



9. **F.FWD button–** Press to rapidly advance the tape, or to view the picture rapidly in forward during playback mode. (Forward Search)

► button– When setting program (for example: setting clock or timer program), press to determine your selection and proceed to the next step you want to input.

Press to determine setting modes from on screen menu.

Press to select a mode from a particular menu. (for example: LANGUAGE or USER'S SET UP)

10. **REC button–** Press for manual recording.

    OTR button– Activates One Touch Recording. (only on the TV/VCR)

11. **VOLUME△ / ▽ buttons–** Adjust the volume level.

12. **CHANNEL ▲ / ▼ buttons–** Press to select the desired channels for viewing or recording.

    TRACKING function– Press to minimize video 'noise' (lines or dots on screen) during playback mode.

13. **EARPHONE jack–** Connects to earphones (not supplied) for personal listening. The size of jack is 1/8" monaural (3.5mm).

14. **Cassette compartment**

15. **Number buttons–** Press to select desired channels for viewing or recording. To select channels from 1 to 9, first press the 0 button and then 1 to 9.

    +100 button– When selecting cable channels which are higher than 99, press this button first, then press the last two digits. (To select channel 125, first press the "+100" button then press "2" and "5").

16. **MENU button–** Press to display the main menu on the TV screen.

17. **DISPLAY button–** Display the counter or the current channel number and current time on the TV screen.

18. **SPEED button–** Press to choose the desired recording speed:SP/SLP.

19. **T-PROG. CLEAR button–** Press to cancel a setting of timer program.

    COUNTER RESET button– Press to reset counter to 0:00:00.

20. **GAME button–** Sets the game mode and external input mode at the same time.

21. **TIME SEARCH button–** Press to activate Time Search mode.

22. **PAUSE/STILL button–** Press to temporarily stop the tape during the recording or to view a still picture during playback.

23. **MUTE button–** Mutes the sound. Press it again to resume sound.

24. **CHANNEL RETURN button–**Press to go back to the previously viewed channel. For example, pressing this button once will change channel display from 3 (present channel) to 10 (previously viewed channel), and pressing it a second time will return from 10 to 3.

25. **WAKE UP/SLEEP button–** Sets the Wake up or Sleep Timer.

26. **ANT. terminal–** Connect to an antenna or cable system.

27. **DC 13.2V jack–** Connect to the Car Battery Cord.

28. **AC 120V jack–** Connect to the AC cord.

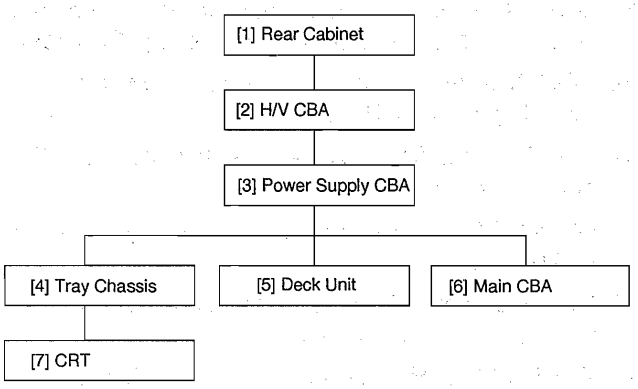
DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

STEP/ LOC. NO.	PART	REMOVAL		
		FIG. NO.	REMOVE/*UNLOCK/ RELEASE/UNPLUG/ UNCLAMP/DESOLDER	NOTE
[1]	Rear Cabinet	1, 2	4(S-1), 1(S-2), 2(S-3)	1
[2]	H/V CBA	3, 5	Anode Cap, CRT CBA, CL501A, CN503, CN571, CN575, CN602, Unclamp H/V CBA	2
[3]	Power SupplyCBA	3, 5	CN1601, CN603, 3(S-5), 2(L-1), 2(S-6)	3
[4]	Tray Chassis	3, 5	CN802	4
[5]	Deck Unit	3	6(S-7), 1(S-8), 1(S-9)	5
[6]	Main CBA	3,5	4(S-10)	6
[7]	CRT	4	4(S-11)	7
↓	↓	↓	↓	↓
①	②	③	④	⑤

Note :

①. Order of steps in Procedure. When reassembling, follow the steps in reverse order.
These numbers are also used as the identification (location) No. of parts in Figures.

②. Parts to be removed or installed.

③. Fig. No. showing Procedure of Part Location

④. Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

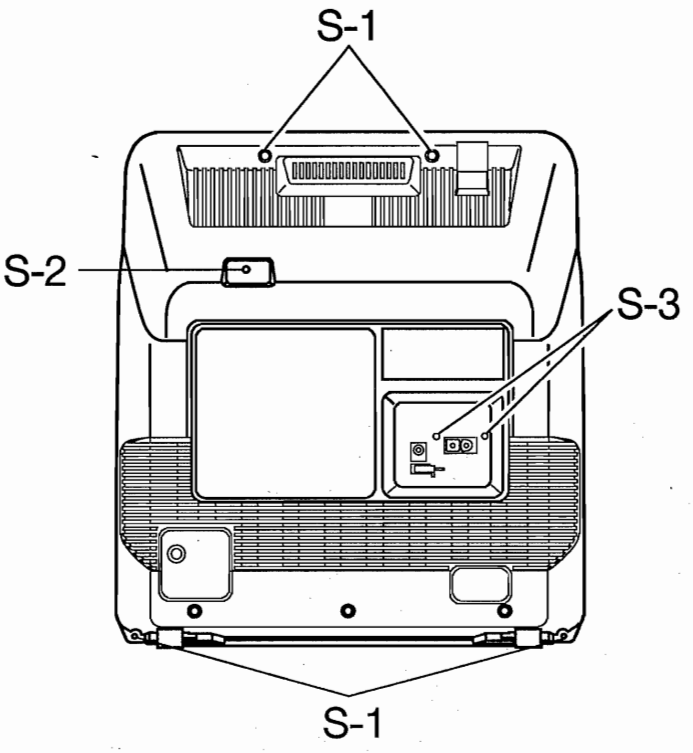
2(S-2) = two Screw (S-2)

⑤. Refer to the following"Reference Notes in the Table" following.

Reference Notes in the Table

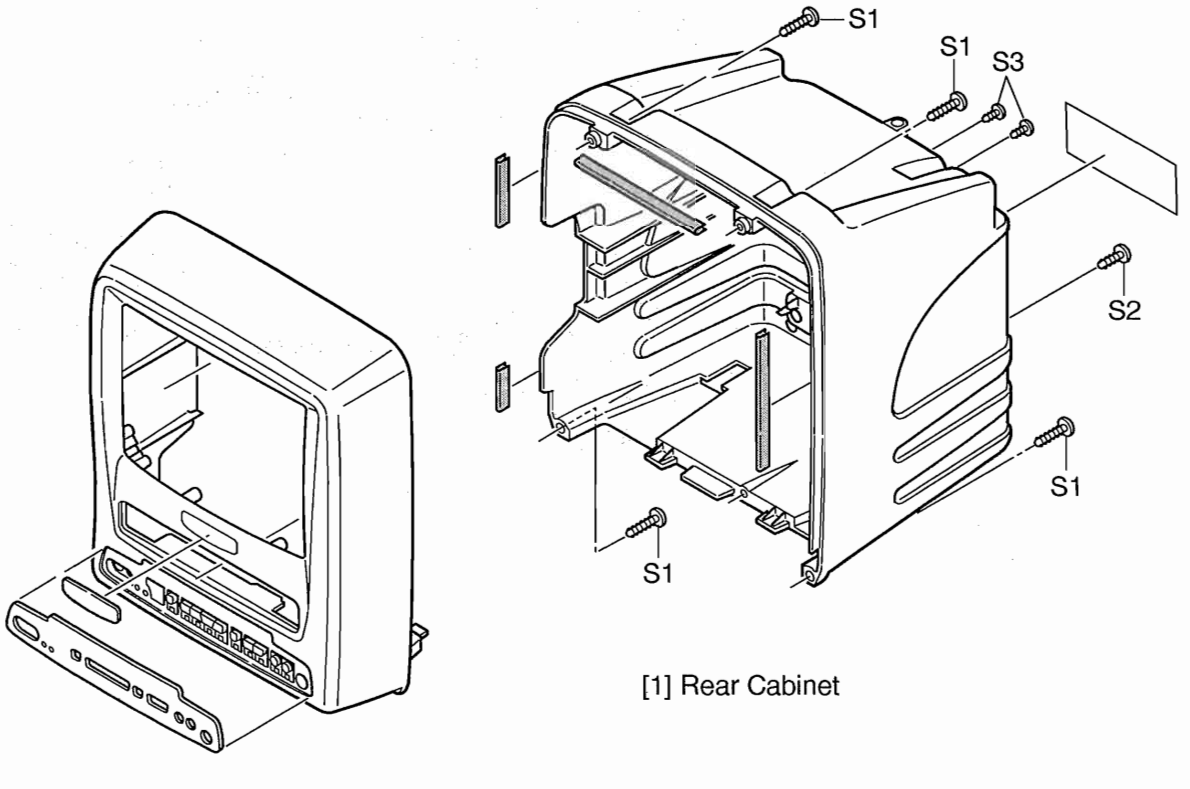
1. Removal of the Rear Cabinet. Remove screws 4(S-1), 1(S-2) and 2(S-3).
2. Removal of the H/V CBA. Disconnect the Anode Lead of the CRT with the CRT ground before removing the Anode Cap.

   Disconnect the following: Anode Cap, CRT CBA, CL501A, CN503, CN571, CN575, CN602.
3. Removal of the Power Supply CBA. Disconnect CN1601 and CN603. Remove screw 2(S-5). Slide the Power Supply CBA Holder backward. Remove screw 3(S-6) and release 2(L-1). Pull the Power Supply CBA backward.
4. Removal of the Tray chassis. disconnect CN802. slide Tray chassis backward.
5. Removal of the Deck Unit. Remove screws 6(S-7), 1(S-8) and 1(S-9). Lift up the Deck Unit.
6. Removal of the Main CBA. Remove screws 4(S-10).
7. Removal of the CRT. Remove screws 4(S-11) and Pull the CRT backward.



[1] Rear Cabinet

Fig. 1



[1] Rear Cabinet

Fig. 2

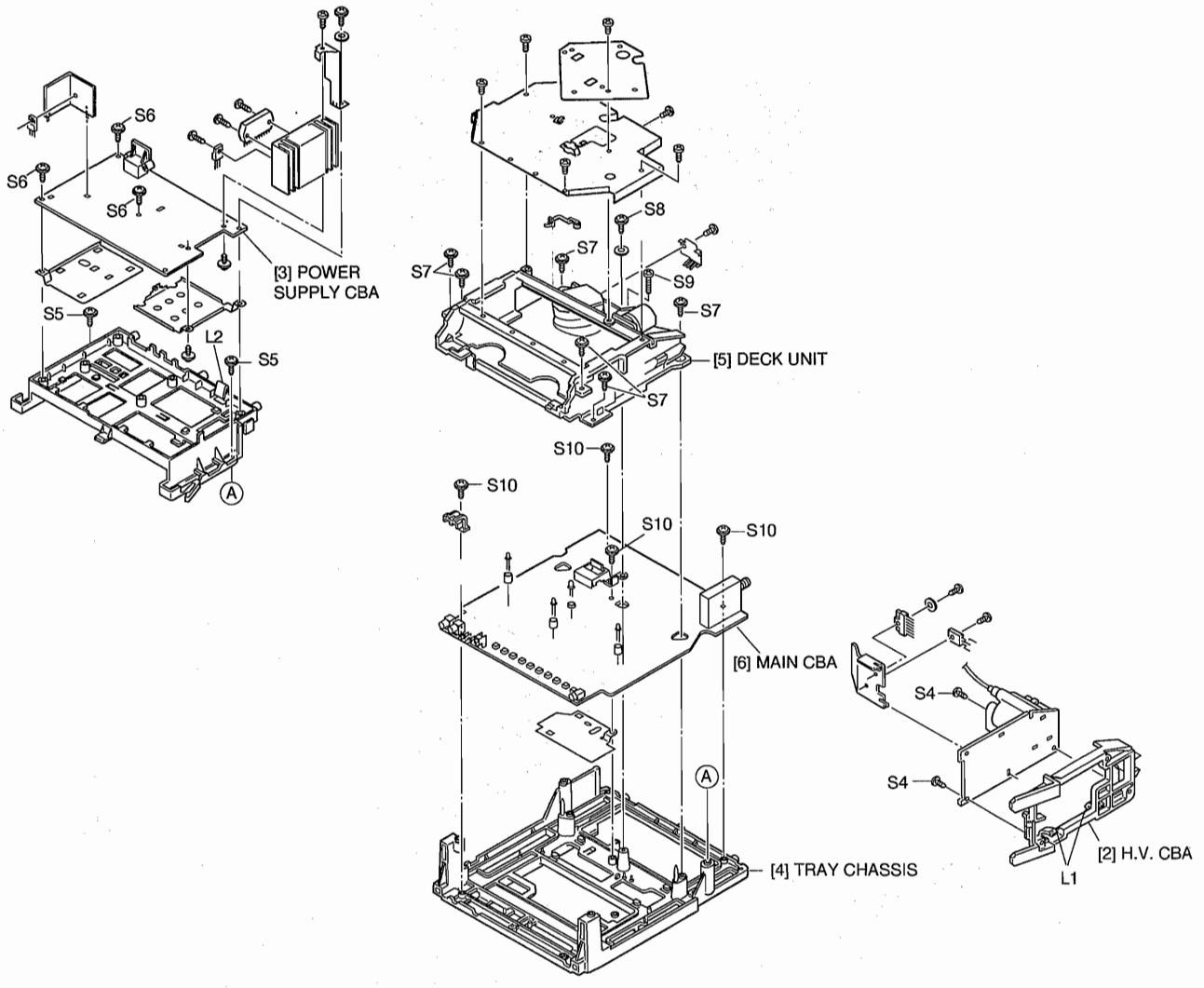

S6
S6
S6
[3] POWER SUPPLY CBA
S5
L2
S5
A
S8
S7
S7
S9
S7
[5] DECK UNIT
S7
S10
S10
S10
S10
[6] MAIN CBA
A
[4] TRAY CHASSIS
S4
S4
[2] H.V. CBA
L1

Fig. 3

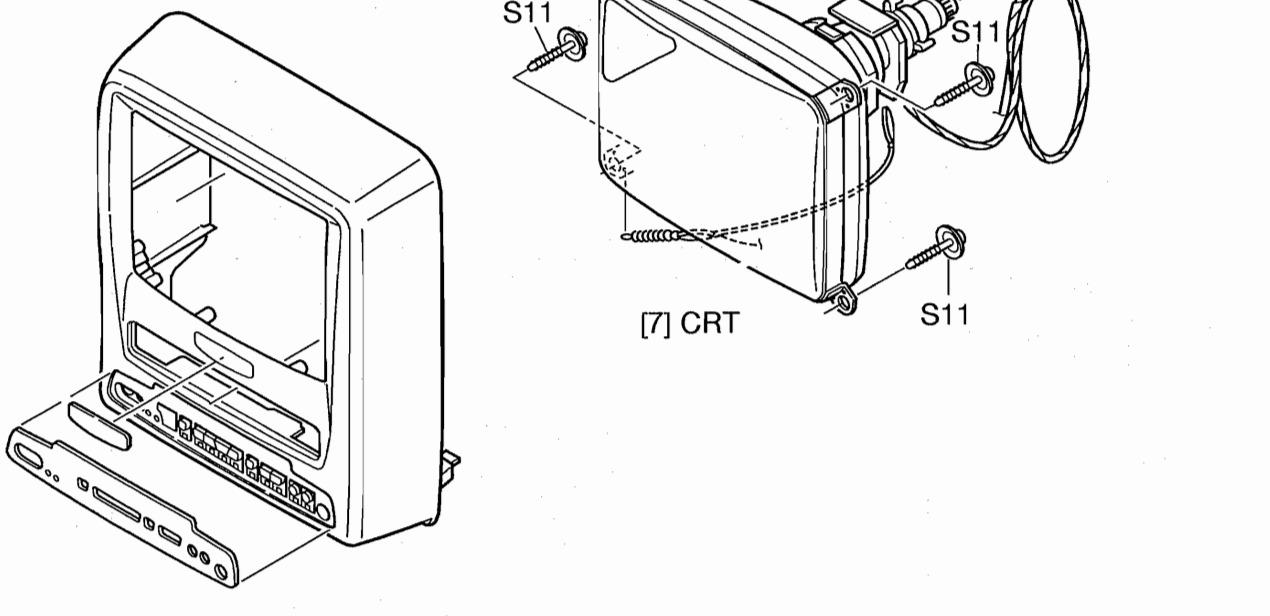


Fig. 4

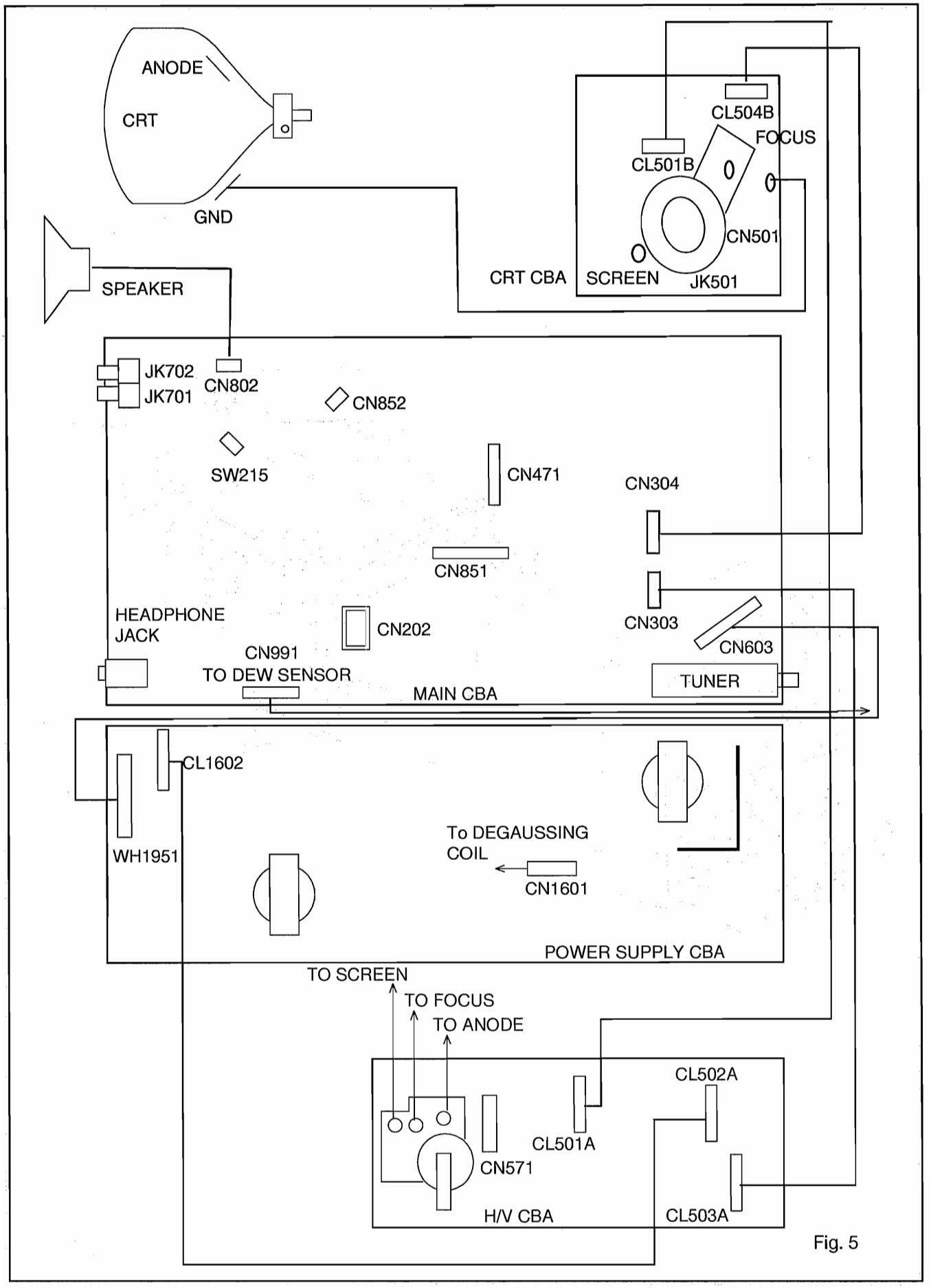

ANODE
CRT
GND
SPEAKER
CL504B
FOCUS
CL501B
CN501
JK501
CRT CBA
SCREEN
JK702
JK701
CN802
CN852
SW215
CN471
CN304
CN851
CN303
CN603
HEADPHONE
JACK
CN202
CN991
TO DEW SENSOR
TUNER
MAIN CBA
CL1602
WH1951
To DEGAUSSING
COIL
CN1601
POWER SUPPLY CBA
TO SCREEN
TO FOCUS
TO ANODE
CL502A
CL501A
CN571
H/V CBA
CL503A

Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:
"CBA" is abbreviation for " Circuit Board Assembly".

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts.

It is important to perform these adjustments only after all repairs and replacements have been completed.

Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (FL8A, FL8N), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div,
   F-Range: DC~AC-60MHz
6. Frequency Counter
7. Plastic Tip Driver
8. DC Power Supply

1a. DC117V Adjustment (AC Power)

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adjustment Point	Mode	Input
J638 (+117V) J637 (GND)	VR1601	---	120V 60Hz
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+117±0.5V DC.	

Note: J638, J637(GND), VR1601
--- Power Supply CBA

1. Connect DC Volt Meter toJ638 and J637(GND).
2. Adjust VR1601 so that the voltage of J638 becomes +117±0.5V DC.

1b. DC117V Adjustment(DC Power)

Test Point	Adjustment Point	Mode	Input
J638 (+117V) J637 (GND)	VR1951	---	13.2V DC
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+117±0.5V DC.	

Note: J638, J637(GND), VR1951
--- Power Supply CBA

1. Input 13.2V DC to DC Jack.
2. Connect DC Volt Meter toJ638 and J637(GND).
3. Adjust VR1951 so that the voltage of J638 becomes +117±0.5V DC.

1c. DC12V Adjustment(DC Power)

Test Point	Adjustment Point	Mode	Input
J633 (+12V) J637 (GND)	VR1952	---	13.2V DC
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+12±0.2V DC.	

Note: J633, J637(GND), VR1952
--- Power Supply CBA

1. Input 13.2V DC to DC Jack.
2. Connect DC Volt Meter toJ633 and J637(GND).
3. Adjust VR1952 so that the voltage of J633 becomes +12±0.2V DC.

2. AFT Adjustment

Purpose: To operate AFT correctly.

Symptom of Misadjustment: AFT does not work correctly and/or synchronization is faulty.

Test Point	Adjustment Point	Mode	Input
J236 (AFT) J323 (GND)	T301 (VCO)	---	See Direction
Tape	M. EQ.	Spec.	
---	Oscilloscope or DC Volt Meter	+4.0±0.1V DC	

Figure

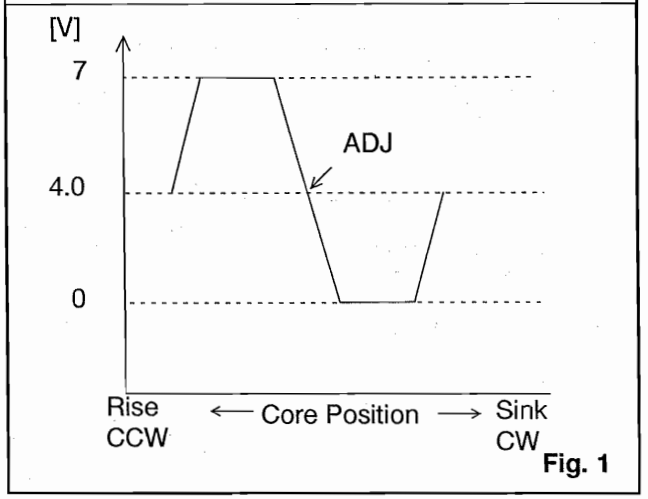


Fig. 1

Note: J236, J323 (GND), T301 --- Main CBA

1. Enter the Service mode. (See Page 1-4-2) Then Press " 3 " button on the Remote Control Unit
2. Input Color Bar signal from RF input.
3. Turn the core of T301 fully counterclockwise.
4. Turn the core of T301 clockwise and find the point where the voltage drops from approximately 9V to 0V immediately on the oscilloscope. (J323)
5. Turn the core of T301 little by little and find the point where +4.0±0.1V DC is obtained between the area mentioned in step 4.
6. Tunr the Power off and on again.

3. AGC Adjustment

Purpose: Set AGC (Auto Gain Control) Level.

Symptom of Misadjustment: AGC does not synchronize correctly when RF input level is too weak and picture distortion may occur if it is too strong.

Test Point	Adjustment Point	Mode	Input
J223 (AGC) J323 (GND)	CH. Up/Down Button (Remote Control Unit)	---	Color Bar 67.25MHz 60dBμV
Tape	M. EQ.	Spec.	
---	Pattern Generator DC Volt Meter	+2.3±0.1VDC +3.3±0.1VDC	

Notes: J223, J323 --- Main CBA

Use the Remote Control Unit

1. Enter the Service mode. (See Page 1-4-2) Then press number 2 button on the remote control unit.
2. Receive the Color Bar signal for channel 4 (67.25MHz). (RF Input Level: 60dBμV)

3-1. Press CH. ▲ / ▼ buttons so that the voltage of J34 becomes +2.3±0.1V DC.
(Tuner Type No.TEDH9-002A or B8055AP)

3-2. Press CH. ▲ / ▼ buttons so that the voltage of J223 becomes +3.3±0.1V DC.
(Tuner Type No.NJH3022U204)

4. Turn the Power off and on again.

4-1. H f_O Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
INT. MONITOR	CH ▲ / ▼ buttons		---
Tape	M. EQ.	Spec.	
---	Frequency Counter		

Note: INT. MONITOR --- Main CBA

1. Connect Frequency Counter to INT. MONITOR.
2. Set the unit to the AUX mode and no input is necessary. Enter the Service mode. (See Page 1-4-2)
3. Operate the unit for at least 20 minutes.
4. Press " 0 " button on the Remote Control Unit and Select H-ADJ Mode. (By pressing " 0 " button the display will change H-ADJ and C-TRAP cyclically).

5. Press CH ▲ / ▼ buttons on the Remote control Unit so that the display will change " 0 " and " 1 ".

   At this moment, Choose display " 0 " or " 1 " when the Frequency Counter shows 15.734kHz or closer.

6. Turn the power off and on again.

4-2. C-Trap Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
J320 (B Out)	CH ▲ / ▼ buttons		Color Bar
Tape	M. EQ.	Spec.	
---	Oscilloscope		

Note: J320--- Main CBA

1. Connect Frequency Counter to J24.
2. Set the unit to the AUX mode and input a color bar signal. Enter the Service mode. (See Page 1-4-2)
3. Press " 0 " button on the Remote Control Unit and Select C-TRAP Mode. (By pressing " 0 " button the display will change H-ADJ and C-TRAP cyclically).
4. Press CH ▲ / ▼ buttons on the Remote Control Unit so that the display will change " 0 ", " 1 ", " 2 " and " 3 ". Choose display " 0 ", " 1 ", " 2 " or " 3 " when carrier leakage (3.58MHz) on B-Out becomes minimum on the Oscilloscope reading.
5. Turn the power off and on again.

5. V. Size Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	Play	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

Note:

1. Enter the Service mode. (See Page 1-4-2)
   Press " 1 " button on the Remote Control Unit and Select V-S Mode. (By pressing " 1 " button the display will change H-P, V-P and V-S cyclically).
2. Input the Monoscope Pattern.
3. Press CH ▲ / ▼ buttons on the Remote control Unit so that the monoscope pattern is 90±5% of display size and the circle is round.

6. V. Shift Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of misadjustment: If V. shift is incorrect, vertical position of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note:

1. Enter the Service mode. (See Page 1-4-2)
   Press " 1 " button on the Remote Control Unit and Select V-P Mode. (By pressing " 1 " button the display will change H-P, V-P and V-S cyclically).
2. Input Monoscope Pattern.
3. Press CH ▲ / ▼ buttons on the Remote Control Unit so that the left and right side of the Monoscope pattern are equal to each other.

7. H. Shift Adjustment

Purpose: To obtain correct horizontal position and size of screen image.

Symptom of misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note:

1. Enter the Service mode. (See Page 1-4-2)
   Press " 1 " button on the Remote Control Unit and Select H-P Mode. (By pressing " 1 " button the display will change H-P, V-P and C-TRAP cyclically).
2. Input Monoscope Pattern.
3. Enter the Service Mode. (See page 1-4-2)
4. Press the " 1 " button on the Remote Control Unit.
5. Adjust CH ▲ / ▼ buttons on the Remote Control Unit so that the left and right side of the Monoscope pattern are equal to each other.
6. Turn the power off and on again.

Note: If you don't have Monoscope, play test tape (FL8M).

8. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adjustment Point	Mode	Input
---	Screen-Control	Ext.	Black Raster / White Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	
Figure			

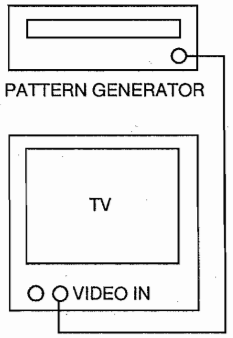


Fig. 2

Note: Screen Control FBT --- H/V CBA

F.B.T= Fly Back Transformer

Use the Remote Control Unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the Black Raster Signal from Video In.
3. Enter the Service Mode. (See page 1-4-2)
4. Press the " MENU " button. (By pressing MENU button the display will change BRT, CNT and TNT cyclically). Select BRT and press " CH ▲ / ▼ " buttons then set in initial value. (By pressing " CH ▲ / ▼ " buttons the display will change MAX, INITIAL and MIN cyclically).
5. Follows above procedure for CNT and TNT adjustment.
6. Press " 8 " button (C/D disply momentarily then press the " 1 " button. The Display will momentarily show" C O R " (R=Red) now there should be a horizontal line accros the center of the picture. If needed gradually turn screen control on the flyback, clockwise until the horizontal line appears. If a pure white line appears then go to step 9 otherwise read on. Adjust the Red Cut off by pressing the CH ▲ / ▼ buttons. Proceed to step 7 when the Red Cut off adjustment is done.
7. Press the " 2 " button. The display will momentarily show " C O G " (G=Green). Adjust the Green CUT OFF by pressing the CH ▲ / ▼ buttons. Proceed to step 8 when the Green CUT OFF adjustment is done.
8. Press the " 3 " button. The display will momentarily show " C O B " (B=Blue). Adjust the Blue CUT OFF by pressing the CH ▲ / ▼ buttons. When done with steps 6, 7 and 8 the horizontal line should be pure white if not, then attempt the CUT OFF adjustment again.
9. Input the White Raster Signal from Video In.
10. Press the " 1 " button. The display will momentarily show " D R " (R=Red) adjust the RED DRIVE as need with the CH ▲ / ▼ buttons.
11. Press the " 5 " button. The display will momentarily show " D B " (B=Blue)". Adjust the BLUE DRIVE as needed with the CH ▲ / ▼ buttons.
12. Turn the power off and on again.

9. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	EXT	IQW
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	
Figure			

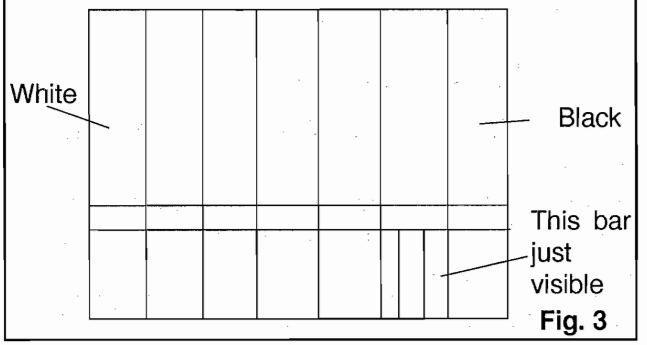


Fig. 3

Note: IQW Setup level --- 10 IRE

1. Enter the Service Mode. (See page 1-4-2) Then input IQW signal from Video in.
2. Press MENU button. (By pressing MENU button the display will change B R T, C N T, T N T cyclically). Select BRT and press CH ▲ / ▼ buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again.

10. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adjustment Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Note: Focus VR (FBT) --- H/V CBA

FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes
2. Face the unit to the East and Degauss the CRT using Degaussing Coil.
3. Input the Monoscope Pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

11. Head Switching Position Adjustment

Purpose: Determine the Head Switching Point during Play back.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (FL8A).
2. Enter the Service Mode. (See page 1-4-2)
   Then press the number 5 button on the remote control unit.
3. The Head Switching position will display on the screen, If adjustment is necessary Follow Step 4. 6.5H(412.7μs) is preferable.
4. Press " CH ▲ " or " CH ▼ " button on the Remote Control Unit if necessary the Value will be changed in 0.5H step up or down. Adjustable Range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
   Lower out of range; 0.0H
   Upper out of range; -.-H
5. Turn the power off and on again.

12. SIF Adjustment

Purpose: To set the SIF (Sound Intermediate Frequency).

Symptom of Misadjustment: Audio may not sound correctly.

Note: This adjustment automatically done by the chrominance IC(IC 301).

13. CCS Text Box Location

When replacing the CRT, the CCS Box does not stay in appropriate position. Then, replace micro computer.

Note: This adjustment automatically done by the microcomputer.

The following 2 adjustments normally are not attempted in the field. Only when replacing the CRT then adjust as a preparation.

14. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Figure

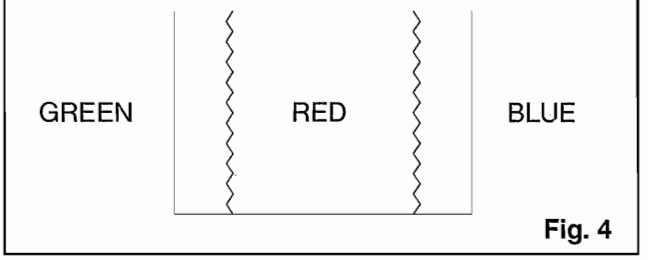


Fig. 4

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX Mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 5)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 4,5)

7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

15. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adjustment Point	Mode	Input
---	C.P. Magnet (RB), C.P. Magnet (RB-G), Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	
Figures			

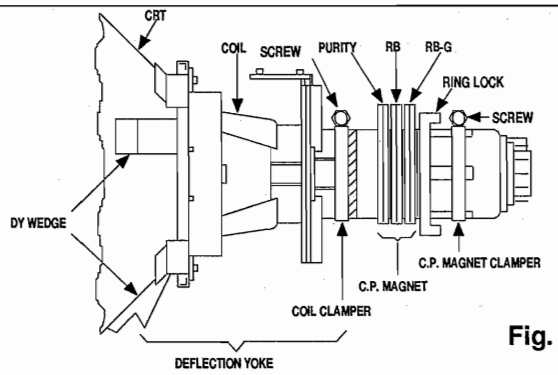


Fig. 5

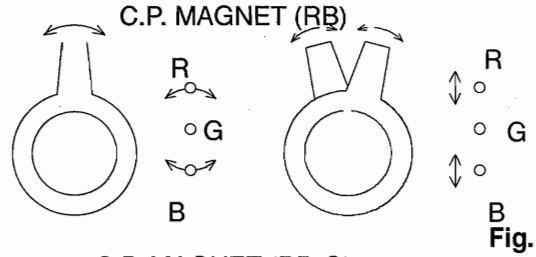


Fig. 6

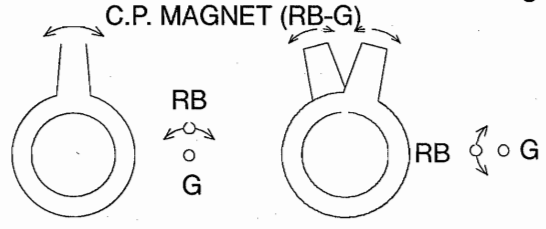
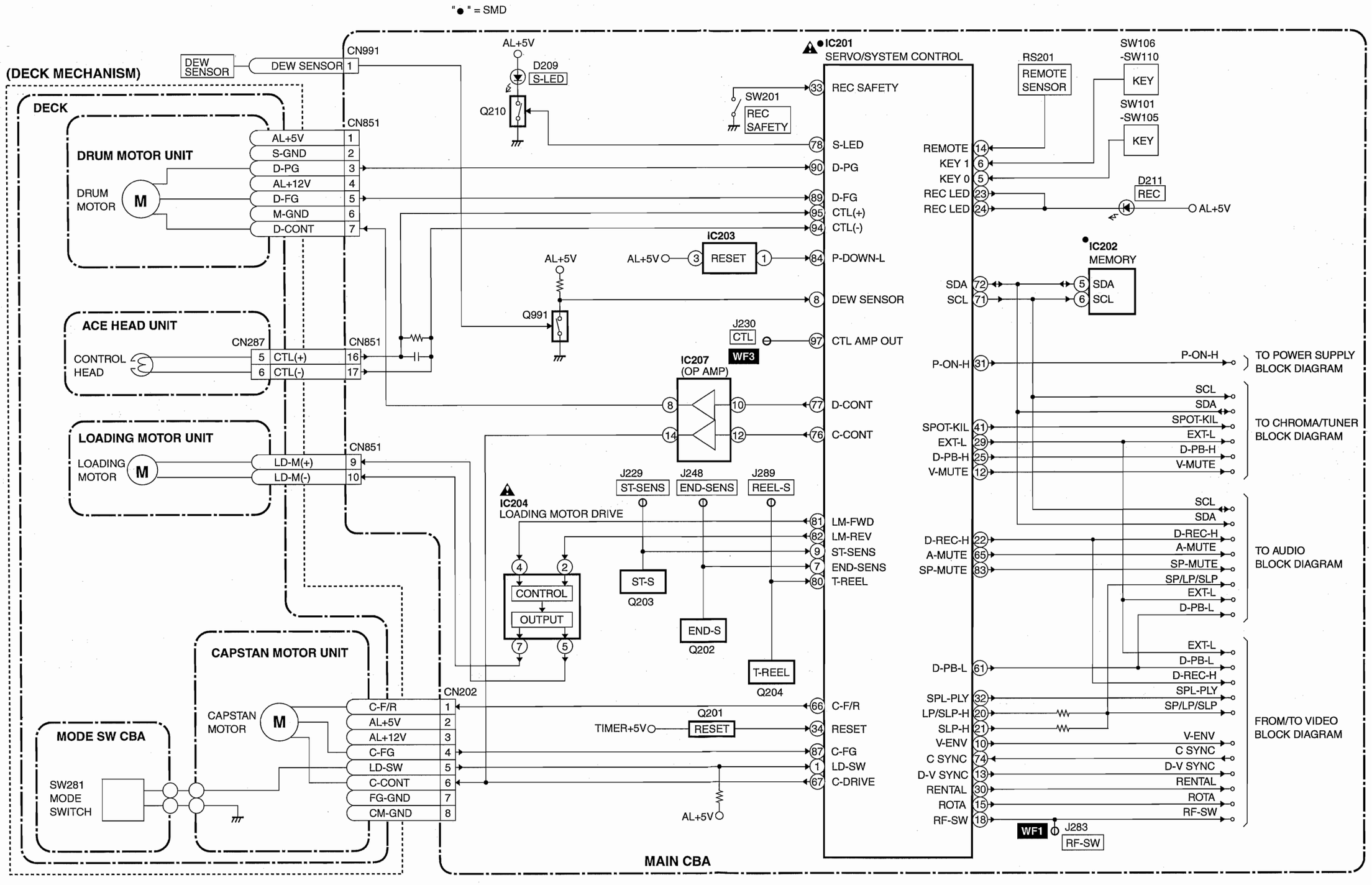


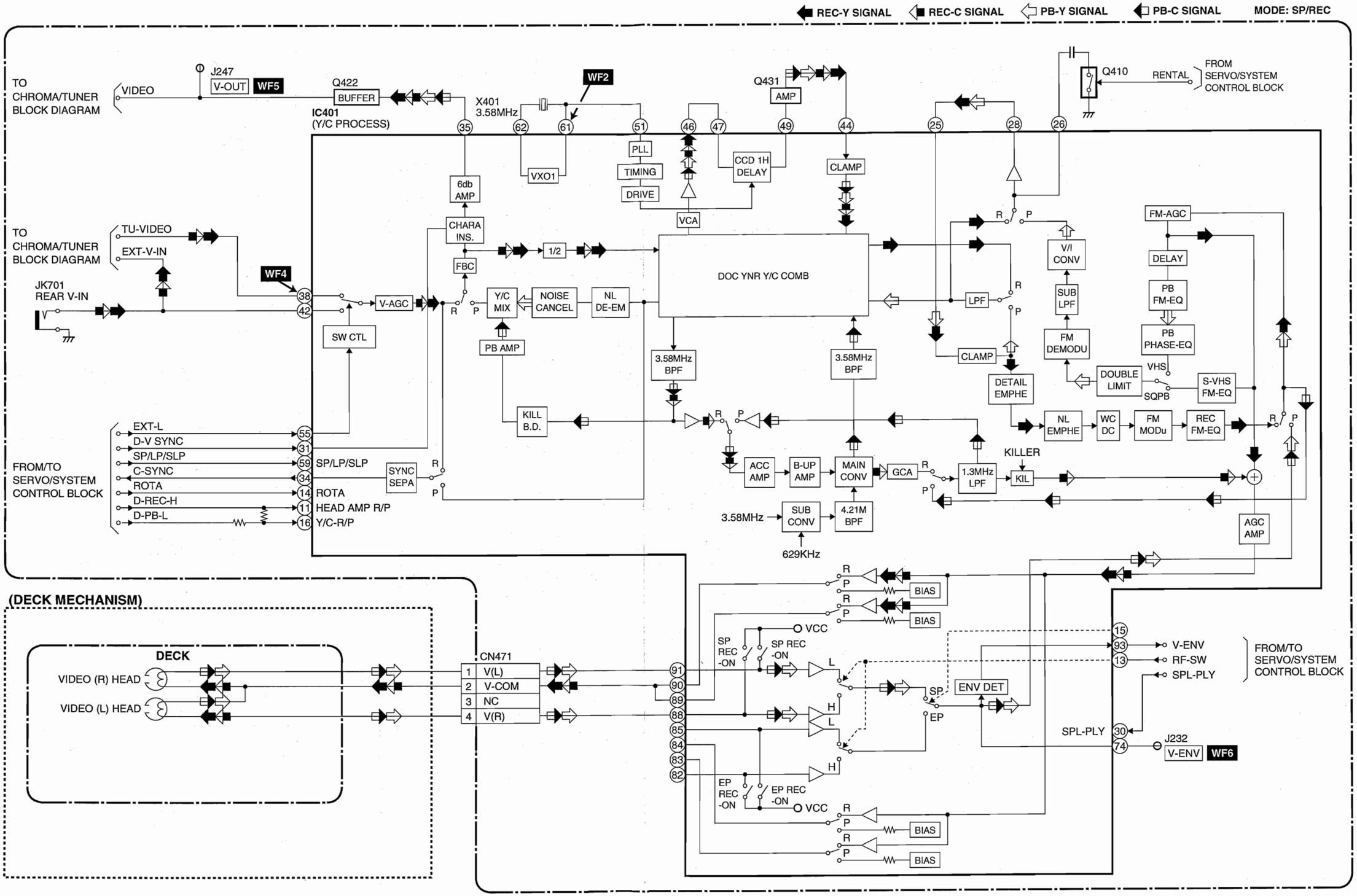
Fig. 7

1. Set the unit to the AUX Mode which is located before CH2 then input a Dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or Crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 6)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 7)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

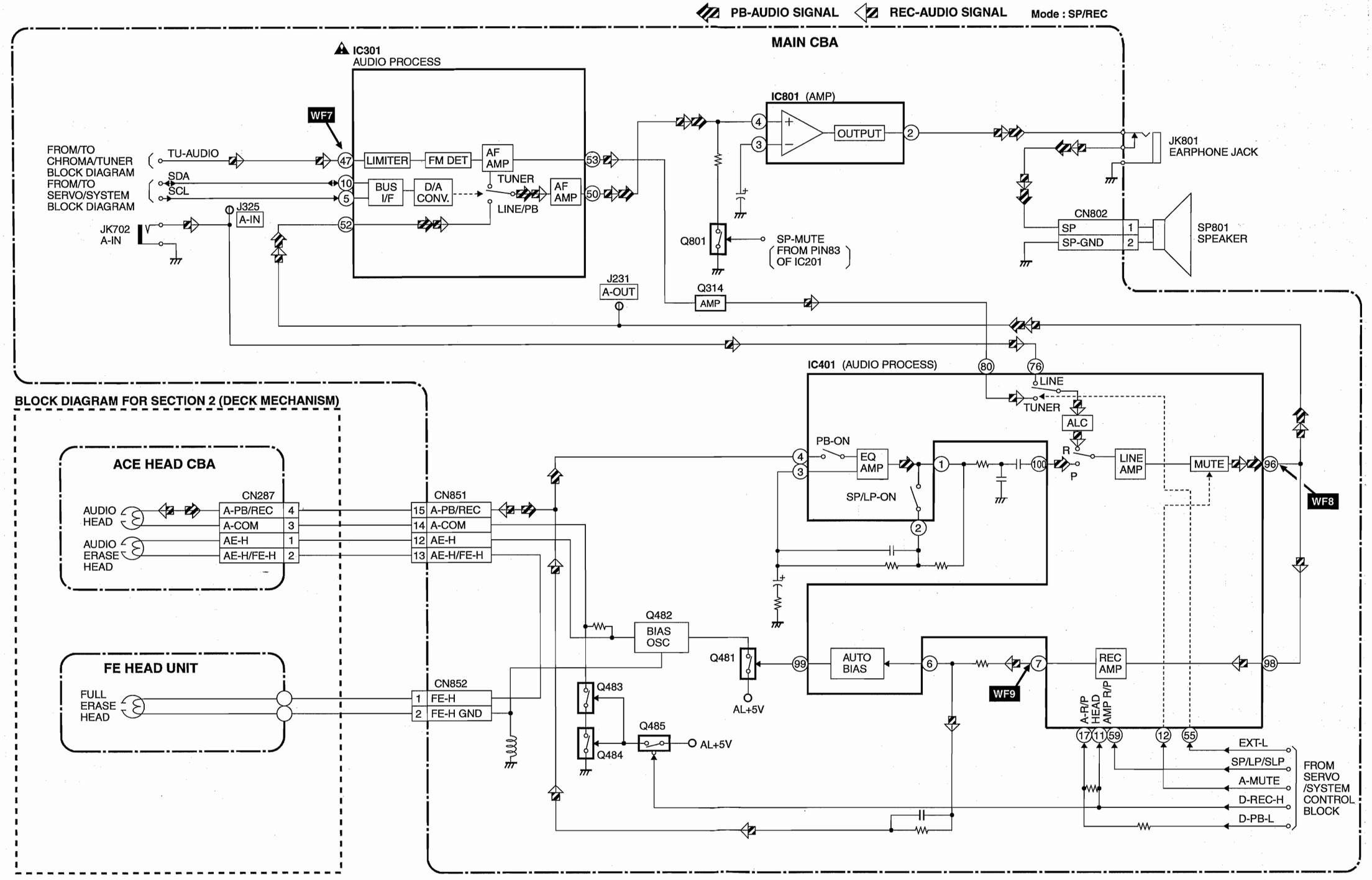
BLOCK DIAGRAMS



Video Block Diagram

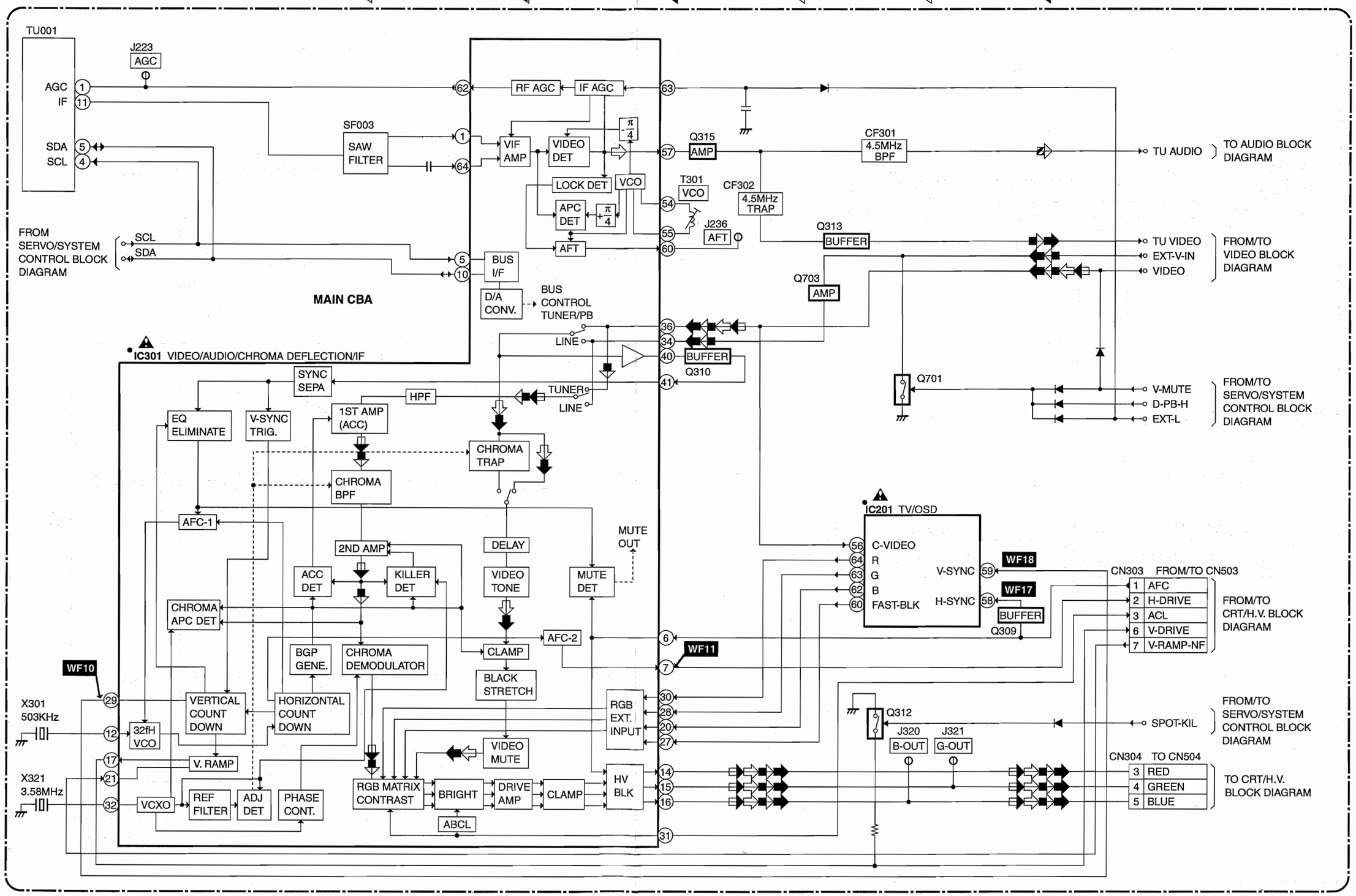


Audio Block Diagram

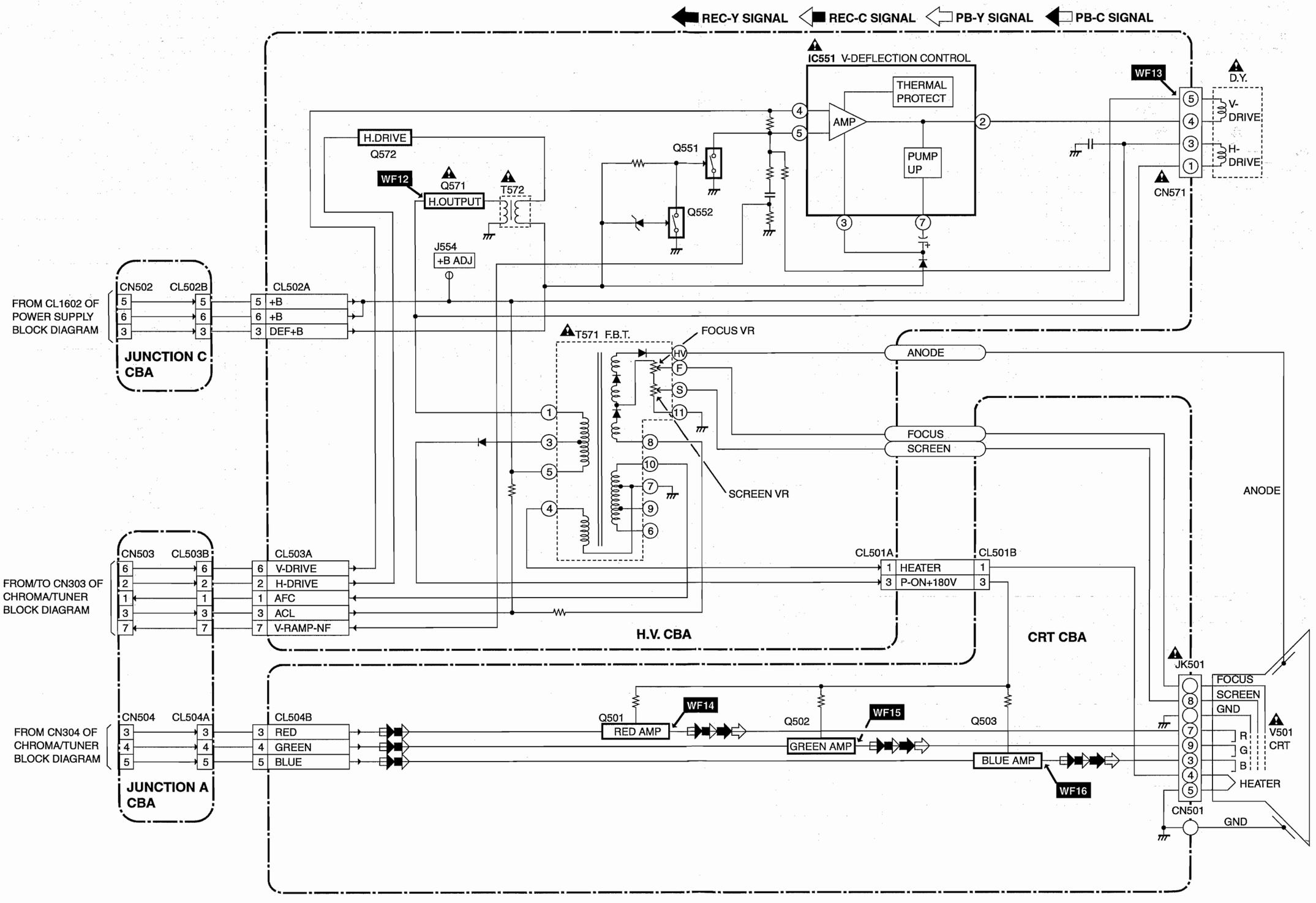


Chroma/Tuner Block Diagram

REC-AUDIO SIGNAL | PB-AUDIO SIGNAL | REC-Y SIGNAL | REC-C SIGNAL | PB-Y SIGNAL | PB-C SIGNAL | Mode : SP/REC



CRT/H.V. Block Diagram



Power Supply Block Diagram

Fixed voltage (or Autovoltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply. Otherwise it may cause some components in the power supply circuit to fail.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
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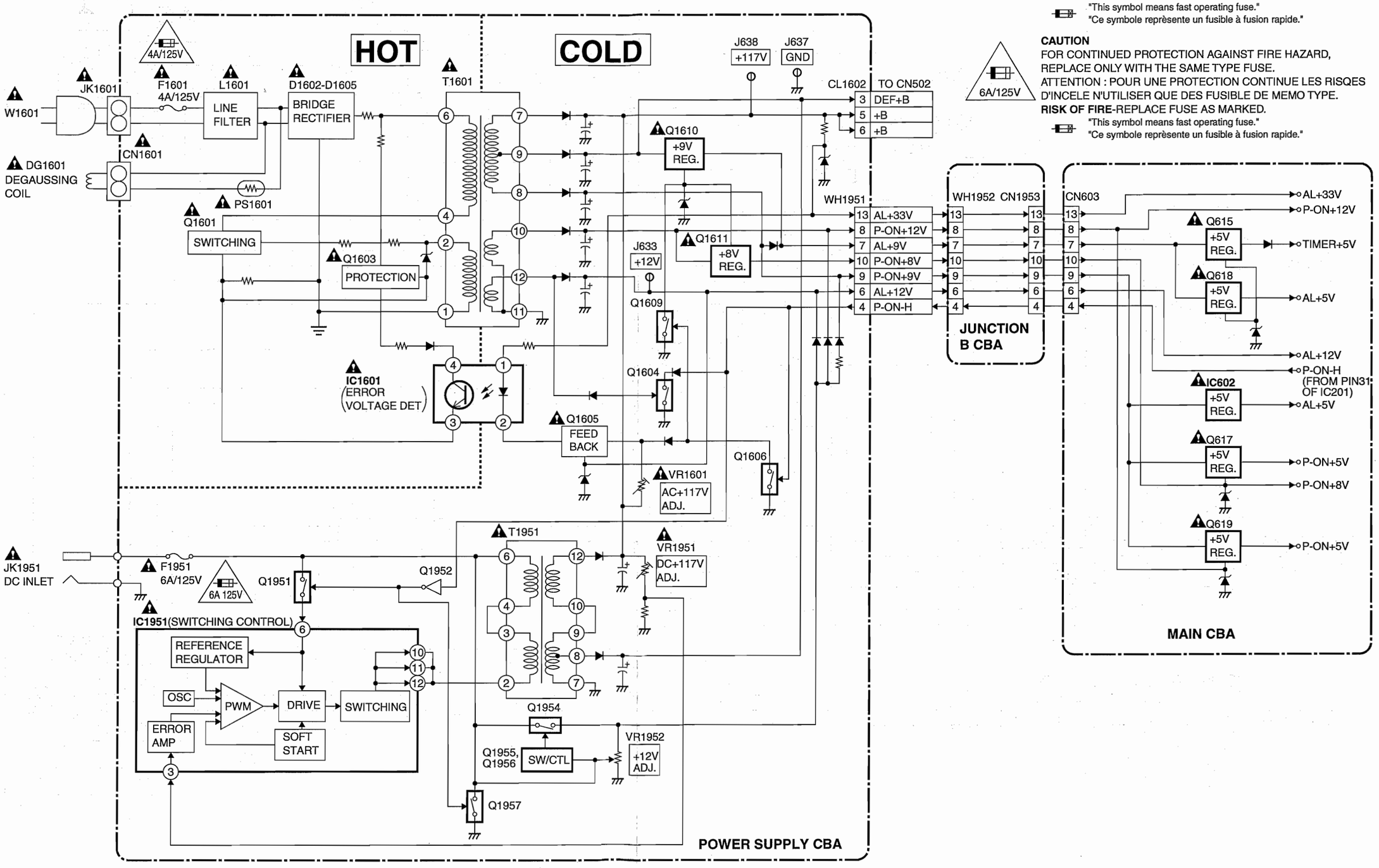
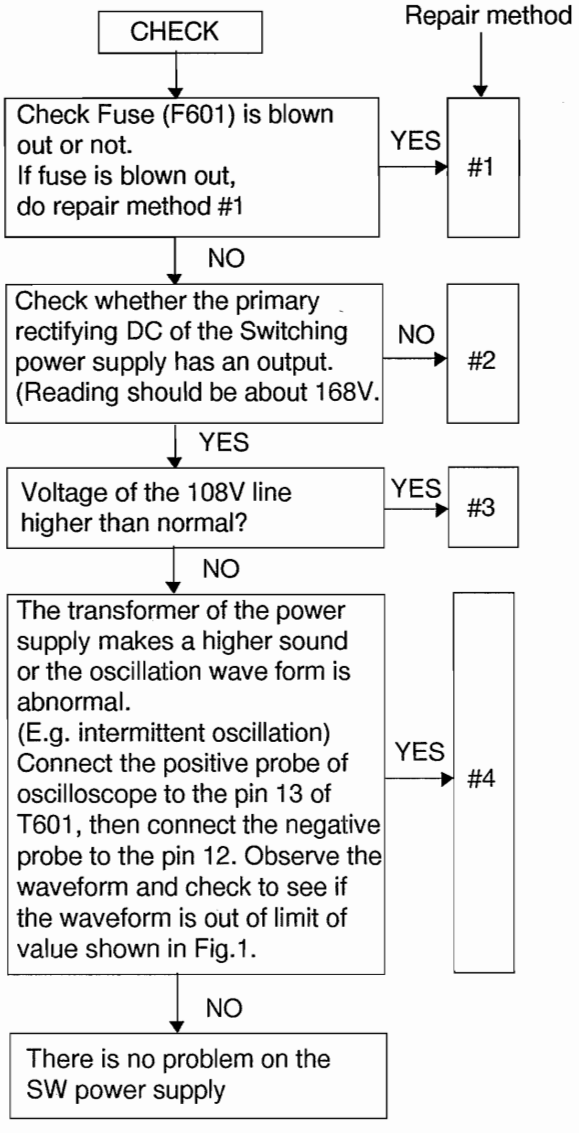


Power Supply Trouble Shooting Guide

It is highly recommended that a variable isolation transformer which can monitor current be used. (Alternatively a variable AC source which monitors current will do). Read directions below before power is added!



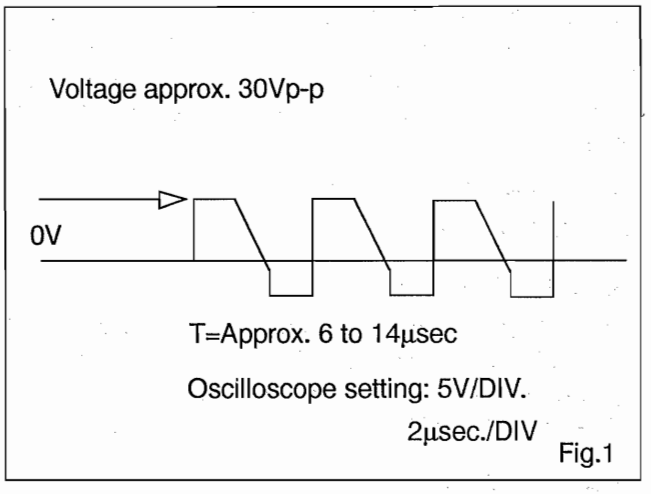


Fig.1

Repair method #1

(Power must be off)

Short circuit in the secondary side. check diode D615, D617, D618, D619 and D621, switching transistor (Q601), control transistor (Q602), diode and resistor replace as necessary.

Disconnect 108V diode (D621), 25V diode (D615), 8V diode (D618), 12V diode (D617, 12V diode (D619)) and Check the load continuity of 108V line, 25V line, 8V line, 12V line through a tester (resistance range).

If the tester indicates a lower resistance value around 0 ohm, the line is short-circuited.

Before repairing the switching power supply, find out the short-circuited area of such line and repair it.

If the tester does not indicate any low resistance value (around 0 ohm), no load is short-circuited and there is no problem.

2] Check for any defective parts while the secondary rectifying diodes are disconnected (D615, D617, D618, D619 and D621) perform a diode check in both forward and reverse directions through a tester.

Repair method #2

Check the primary rectifying diodes (D609-D612) as possible problems. Remove the above mentioned parts and check them. Perform check according to the step 1 and 2 of repair method #1 and check for defects following parts, then if necessary replace with factory originals..

R605 is open or not.

Q601 and D606 are short or not.

Repair method #3

The feedback circuit which is monitored by the output of D621 108V may not work and this may be regarded as a possible cause, remove IC601 (Photo Coupler), diode (D614) and transistor (Q605) check for defects.

Repair method #4

Check control circuitly which is connecting to Pin 2 and 1 of Switching Transformer T601.

SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Warning

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}\mu F$).
5. All voltages are DC voltages unless otherwise specified.

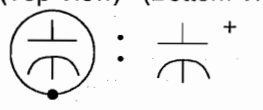
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20℃	-25~+85℃
(F)	+30 -80%	20℃	-25~+85℃
(SR)	±15%	20℃	-25~+85℃
(Z)	+30 -80%	20℃	-10~+70℃

Capacitors and transistors are represented by the following symbols.

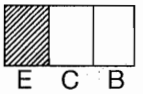
CBA Symbols

(Top View) (Bottom View)



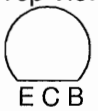
: Electrolytic Capacitor

(Bottom View)



: Transistor or Digital Transistor

(Top View)



NPN Transistor

(Top View)

PNP Transistor

(Top View)

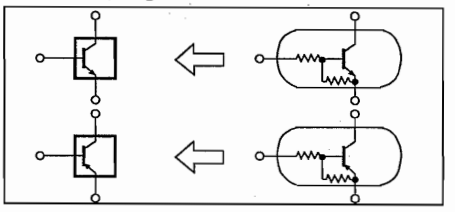
NPN Digital Transistor

(Top View)

PNP Digital Transistor

Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:**

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

2. **CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Wire Connectors

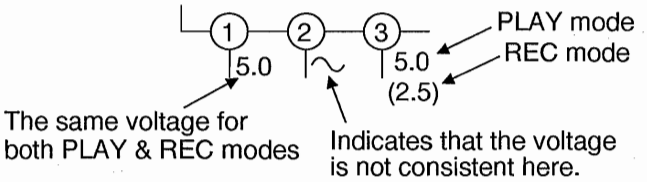
(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).

(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Note: Mark "•" is a leadless (chip) component.

6. Mode: SP/REC

7. Voltage indications for PLAY and REC modes on the schematics are as shown below:



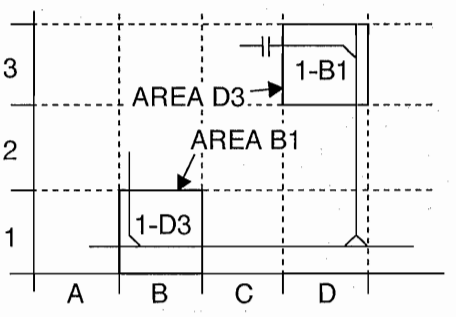
Unit: Volts

8. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



9. Test Point Information

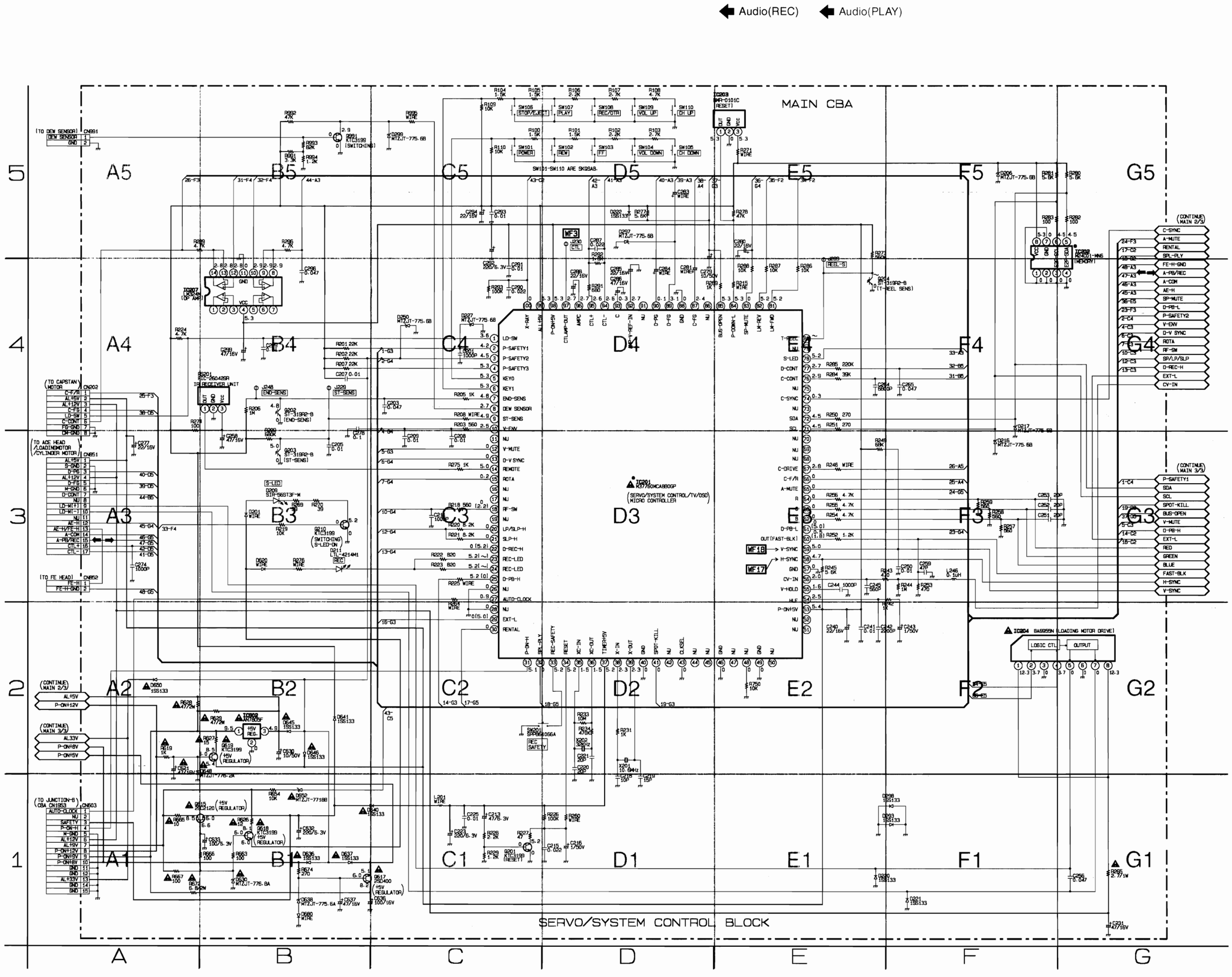
: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

Main 1/3 Schematic Diagram



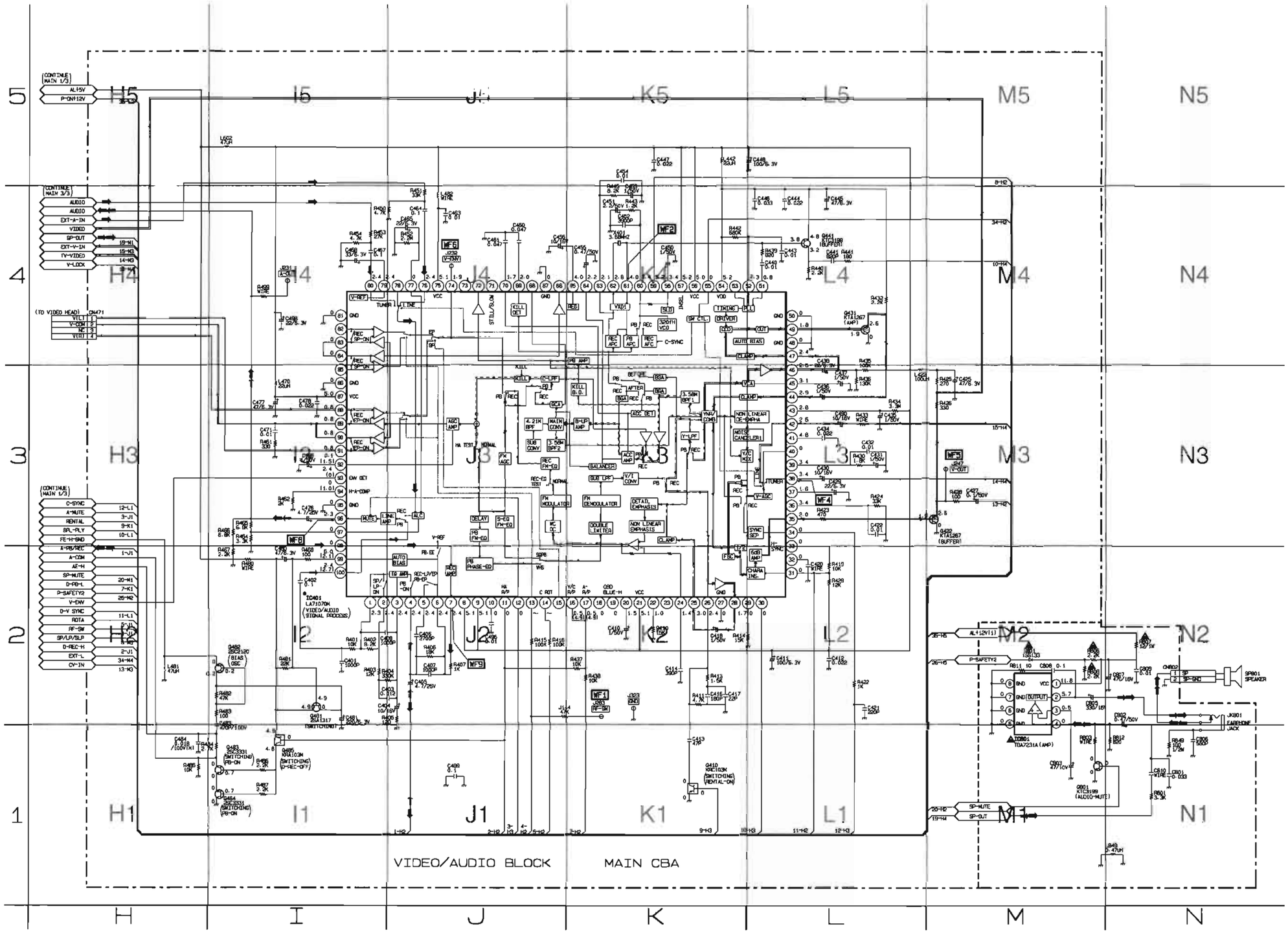
MAIN 1/3

Ref No.	Position
ICS	
IC201	D-3
IC202	G-5
IC203	E-5
IC204	F-2
IC207	B-4
IC602	B-4
TRANSISTORS	
Q201	C-1
Q202	B-4
Q203	B-3
Q204	E-4
Q210	B-3
Q615	A-1
Q617	C-1
Q618	B-1
Q619	B-2
Q991	B-5
TEST POINTS	
J229	B-4
J230	D-5
J248	B-4
J289	E-4
CONNECTORS	
CN202	A-4
CN603	A-1
CN851	A-3
CN852	A-3
CN991	A-5

Main 2/3 Schematic Diagram

Luminance + Chrominance(REC)
Luminance(REC)
Chrominance(REC)
Audio(REC)

Luminance + Chrominance(Play)
Luminance(Play)
Chrominance(Play)
Audio(PLAY)



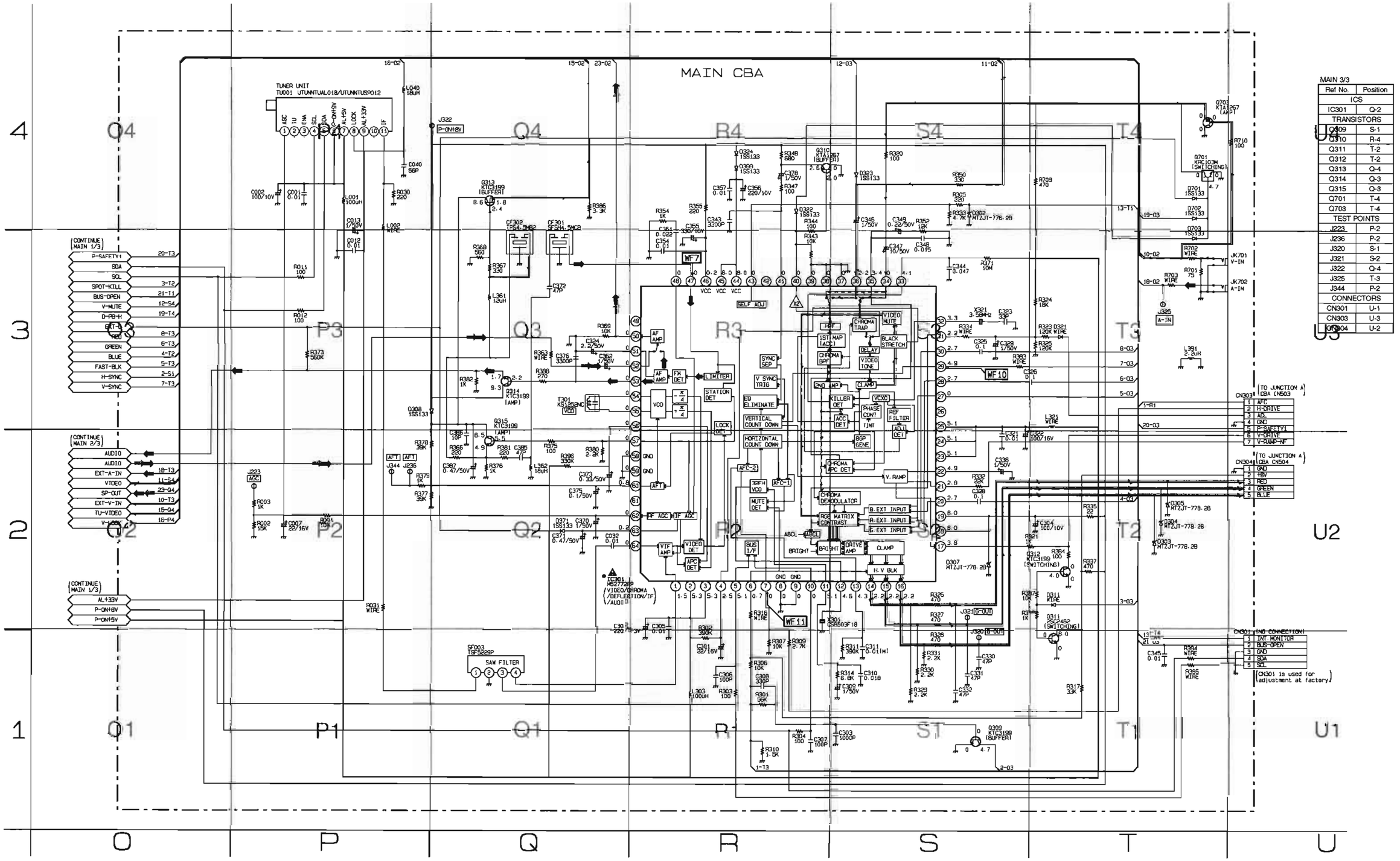
MAIN 2/3

Ref No.	Position
ICS	
IC401	I-2
IC801	M-1
TRANSISTORS	
Q410	K-1
Q422	M-3
Q431	L-4
Q441	L-4
Q481	I-2
Q482	I-2
Q483	I-1
Q484	I-1
Q485	I-1
Q801	M-1
TEST POINTS	
J231	I-4
J232	J-4
J247	M-3
J283	K-2
J323	K-2
CONNECTORS	
CN471	H-4
CN802	N-2

Main 3/3 Schematic Diagram

Luminance + Chrominance(REC)
Luminance(REC)
Chrominance(REC)
Audio(REC)

Luminance + Chrominance(Play)
Luminance(Play)
Chrominance(Play)
Audio(PLAY)



MAIN 3/3

Ref No.	Position
ICS	
IC301	Q-2
TRANSISTORS	
Q309	S-1
Q310	R-4
Q311	T-2
Q312	T-2
Q313	Q-4
Q314	Q-3
Q315	Q-3
Q701	T-4
Q703	T-4
TEST POINTS	
J223	P-2
J236	P-2
J320	S-1
J321	S-2
J322	Q-4
J325	T-3
J344	P-2
CONNECTORS	
CN301	U-1
CN303	U-3
CN304	U-2

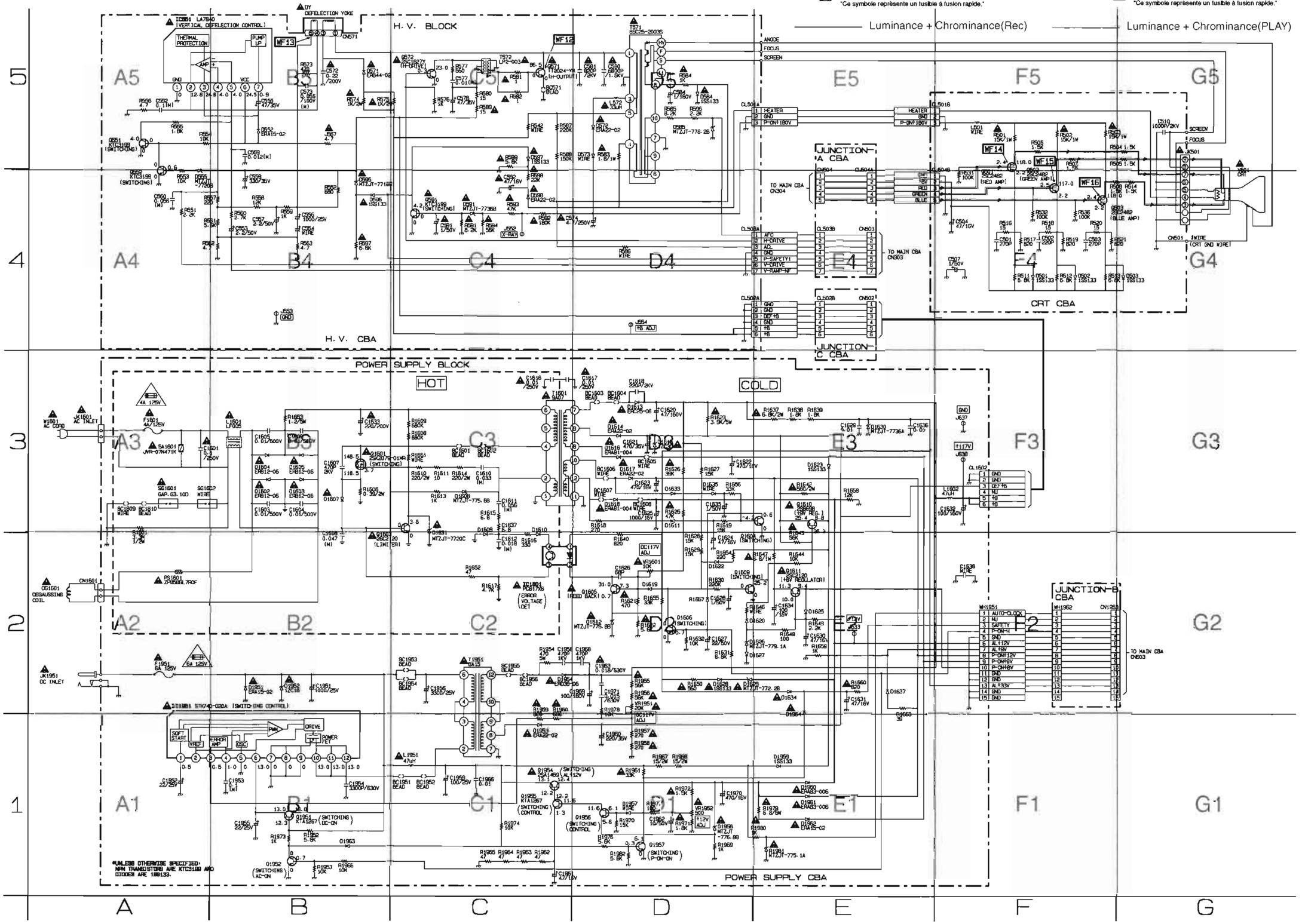
Power Supply/H.V./CRT Schematic Diagram

NOTE :
THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING HOT GND AS A COMMON TERMINAL.

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."
4A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."
6A/125V



H.V.

Ref No.	Position
ICS	
IC551	A-5
TRANSISTORS	
Q551	A-5
Q552	A-4
Q571	C-5
Q572	C-5
Q591	C-4
TEST POINTS	
J552	C-4
J553	B-4
J554	D-4
CONNECTORS	
CL501A	E-5
CL502A	E-4
CL503A	E-4
CN571	B-5

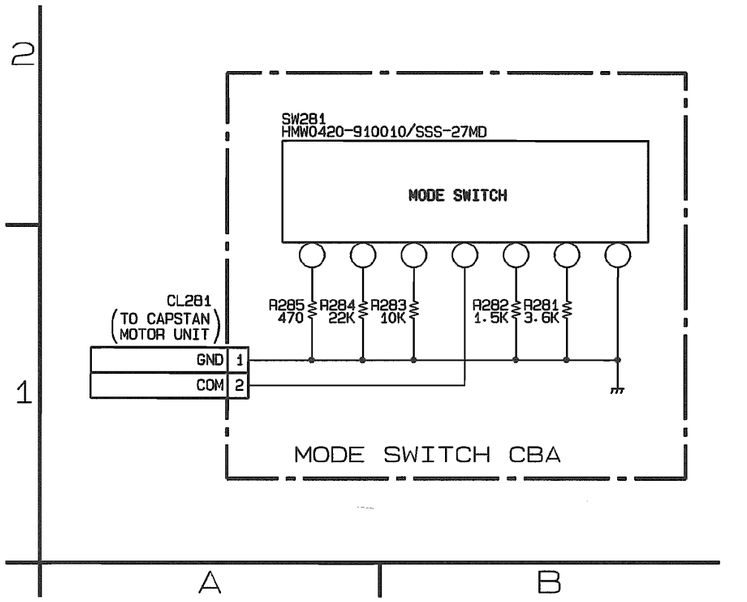
CRT

Ref No.	Position
TRANSISTORS	
Q501	F-4
Q502	F-4
Q503	F-4
CONNECTORS	
CN501	G-4
CL501B	E-5
CL504B	E-4

POWER

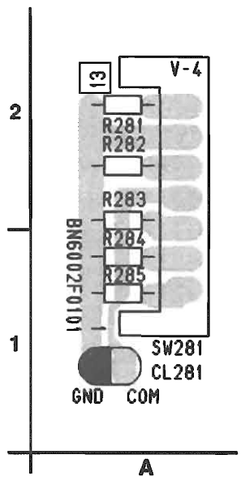
Ref No.	Position
ICS	
IC1601	C-2
IC1951	A-2
TRANSISTORS	
Q1601	B-3
Q1603	C-3
Q1604	E-3
Q1605	D-2
Q1606	D-2
Q1609	D-2
Q1610	E-3
Q1611	E-2
Q1951	B-1
Q1952	B-1
Q1954	C-1
Q1955	C-1
Q1956	D-1
Q1957	D-1
TEST POINTS	
J633	E-2
J637	F-3
J638	F-3
CONNECTORS	
CN1601	A-2
CN1602	F-3
WH1951	F-2
ADJUSTMENT	
VR1601	D-2
VR1951	D-2
VR1952	D-1

Mode SW Schematic Diagram

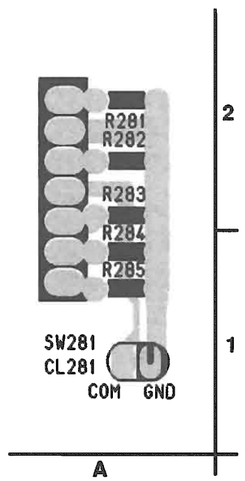


B5900SCMS

Mode SW CBA Top View



Mode SW CBA Bottom View



BN6002F01011

Junction A CBA Top View

Junction A CBA Bottom View

BT4000F01031-D

Junction B CBA Top View

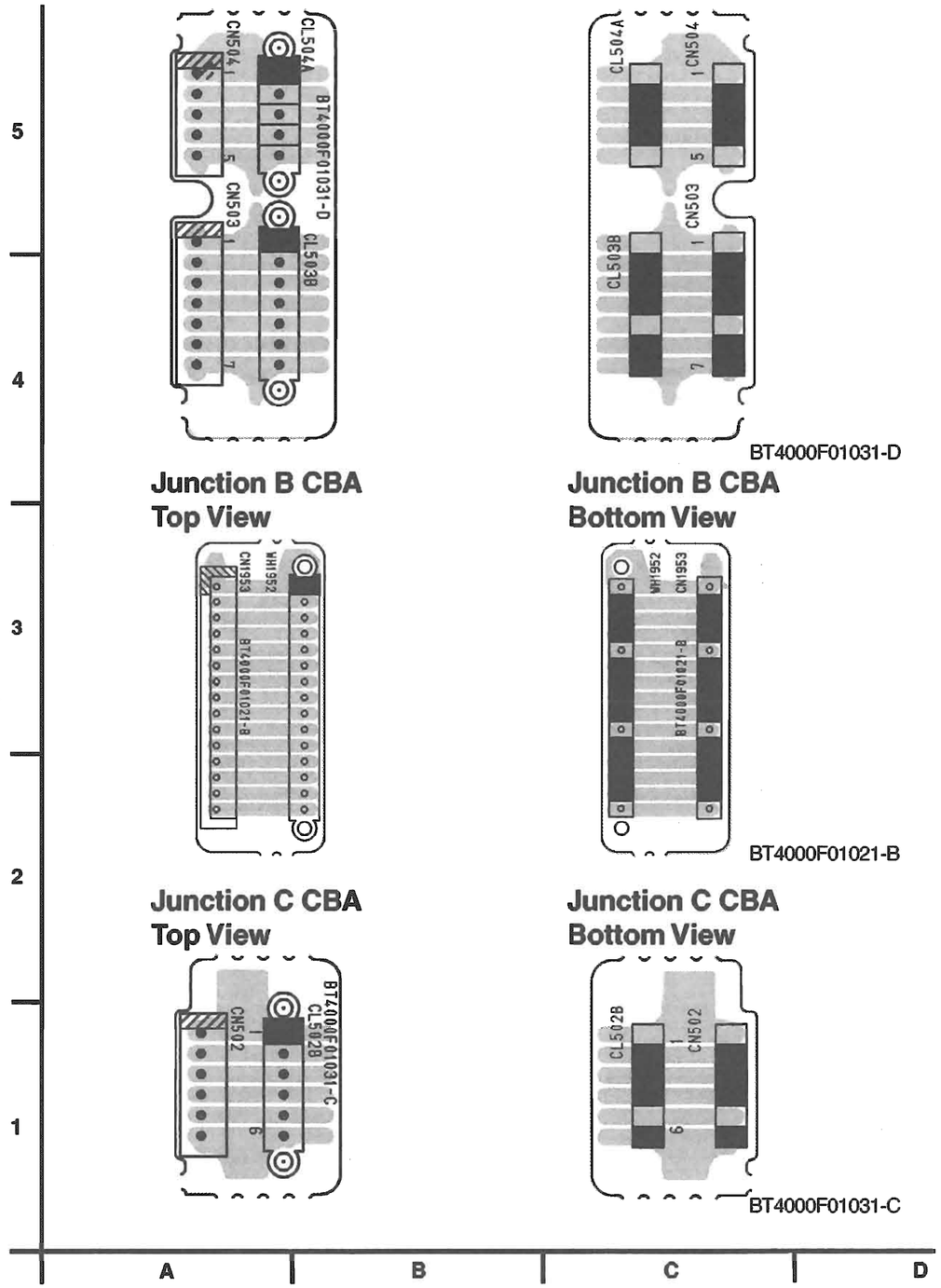
Junction B CBA Bottom View

BT4000F01021-B

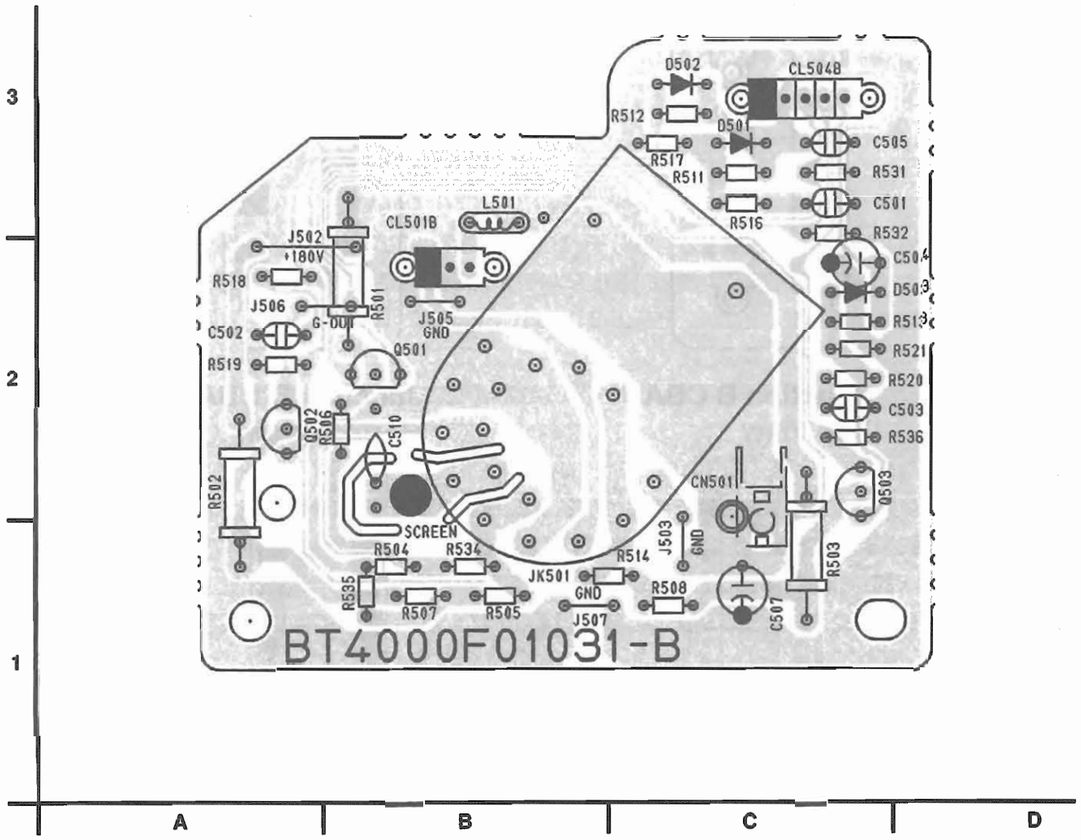
Junction C CBA Top View

Junction C CBA Bottom View

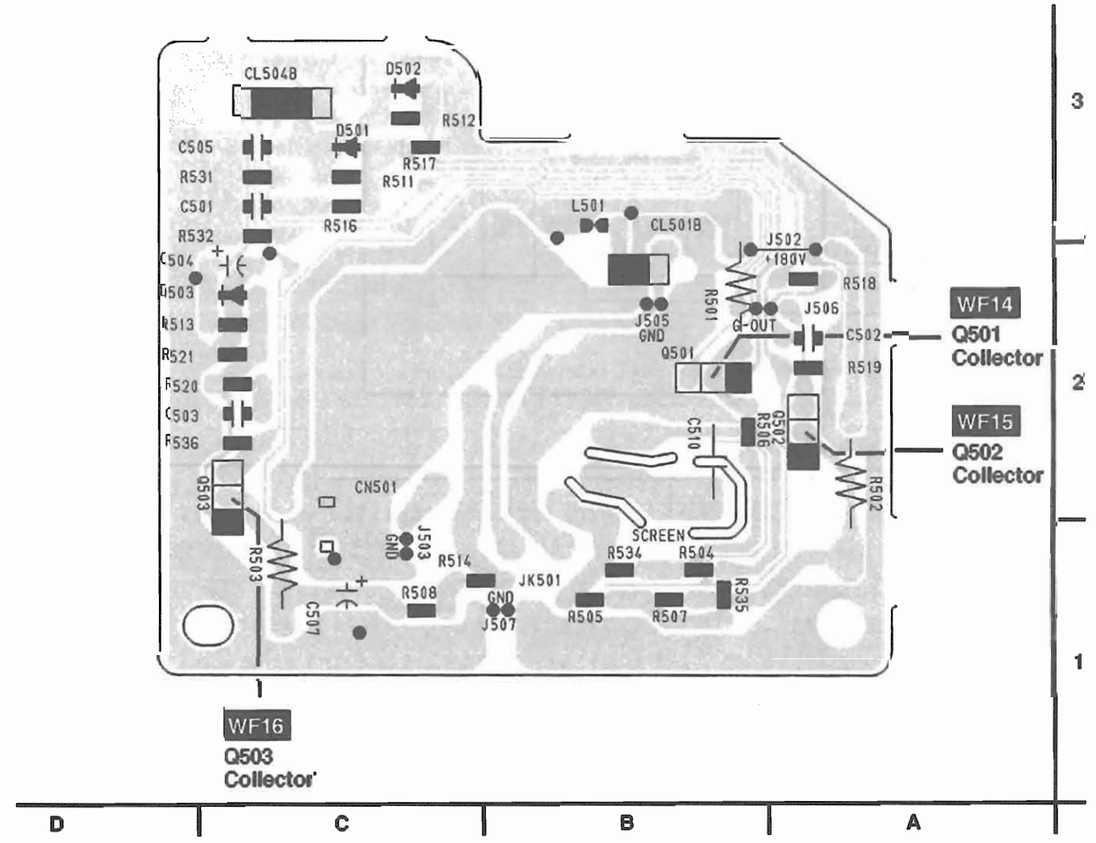
BT4000F01031-C



CRT CBA Top View



CRT CBA Bottom View

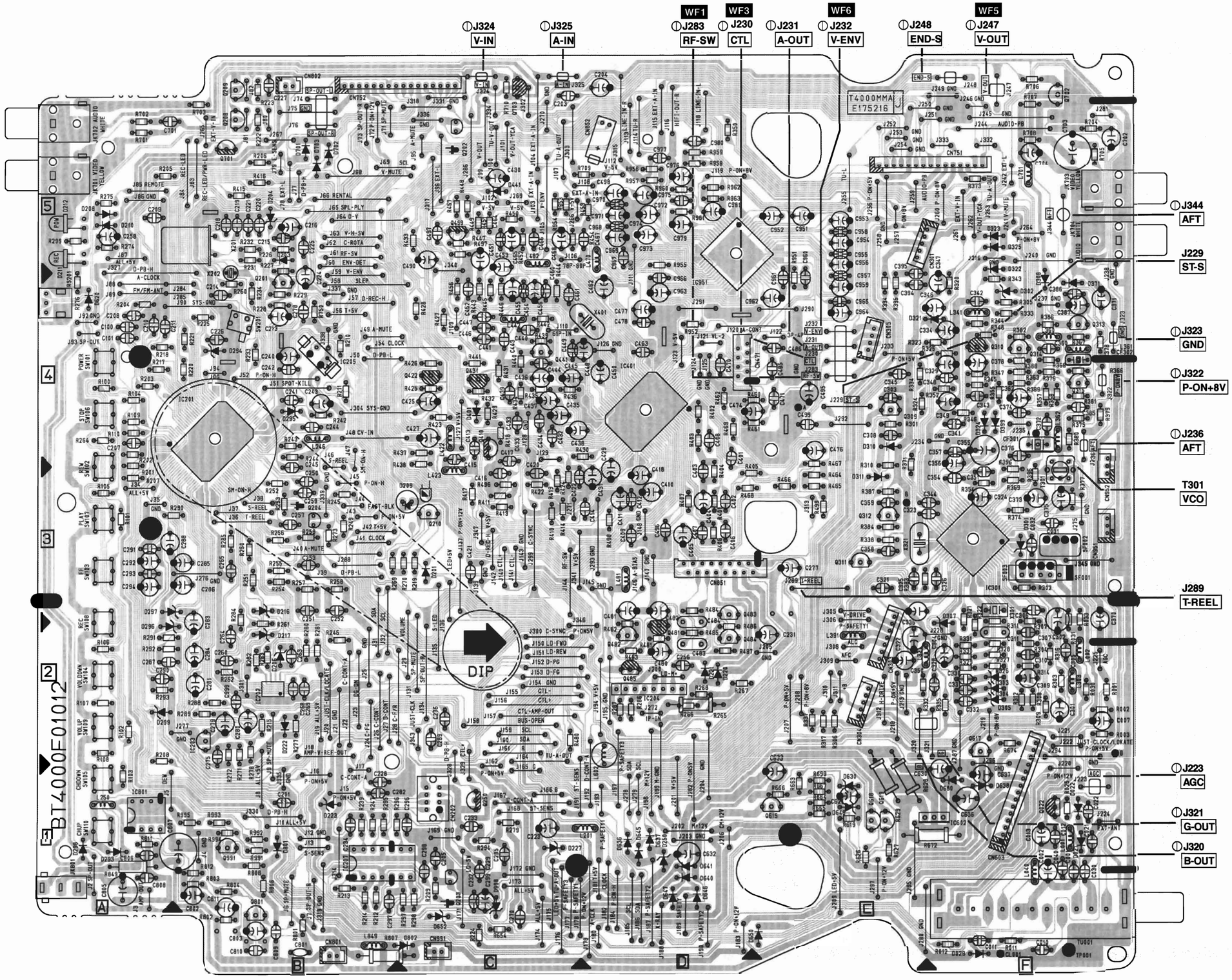


BT4000F01031-B

CRT CBA

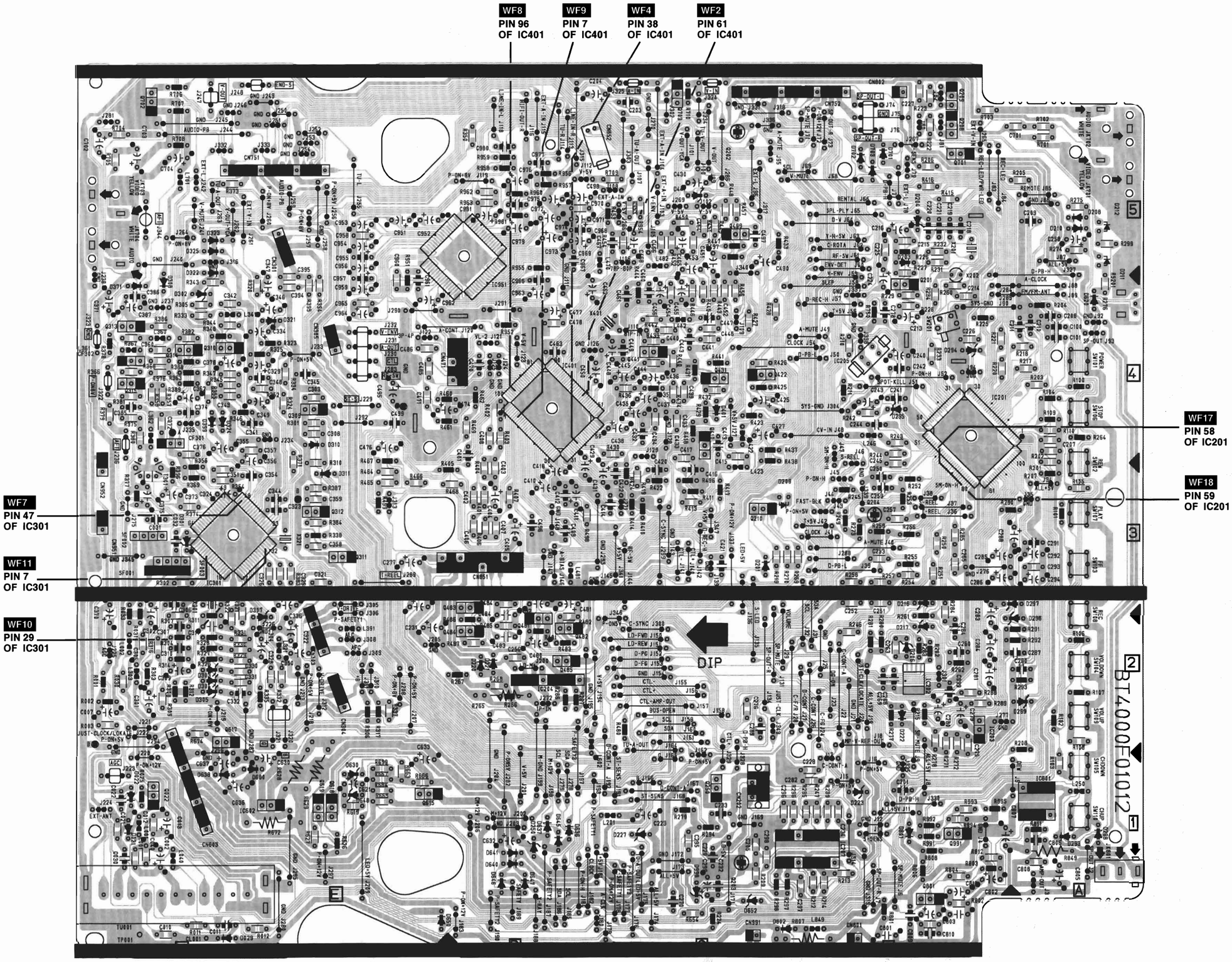
Ref No.	Potision
TRANSISTORS	
Q501	B-2
Q502	A-2
Q503	C-2
CONNECTORS	
CN501	C-2
CL501B	B-2
CL504B	C-3

Main CBA Top View



MAIN CBA	
Ref No.	Potision
ICS	
IC201	B-4
IC202	B-2
IC203	B-2
IC204	D-2
IC207	B-1
IC301	F-3
IC401	D-4
IC602	F-1
IC801	A-1
TRANSISTORS	
Q201	B-4
Q202	C-5
Q203	C-1
Q204	B-3
Q210	C-3
Q309	E-4
Q310	F-4
Q311	E-3
Q312	E-3
Q313	F-4
Q314	F-4
Q315	F-4
Q410	C-4
Q422	C-4
Q431	C-4
Q441	C-4
Q481	D-2
Q482	D-2
Q483	D-3
Q484	D-2
Q485	D-2
Q615	E-1
Q617	F-2
Q618	E-1
Q619	E-1
Q701	B-5
Q703	C-5
Q801	B-1
Q991	B-1
TEST POINTS	
J223	F-1
J229	E-4
J230	E-4
J231	E-4
J232	E-4
J236	F-4
J247	F-5
J248	F-5
J283	E-4
J289	E-3
J320	E-2
J321	F-2
J323	F-4
J324	C-5
J325	C-5
J344	F-5
CONNECTORS	
CN202	C-1
CN301	F-5
CN303	E-2
CN304	E-2
CN471	E-4
CN603	F-1
CN802	B-5
CN851	D-3
CN852	D-5
CN991	C-1

Main CBA Bottom View



Power Supply CBA Top View

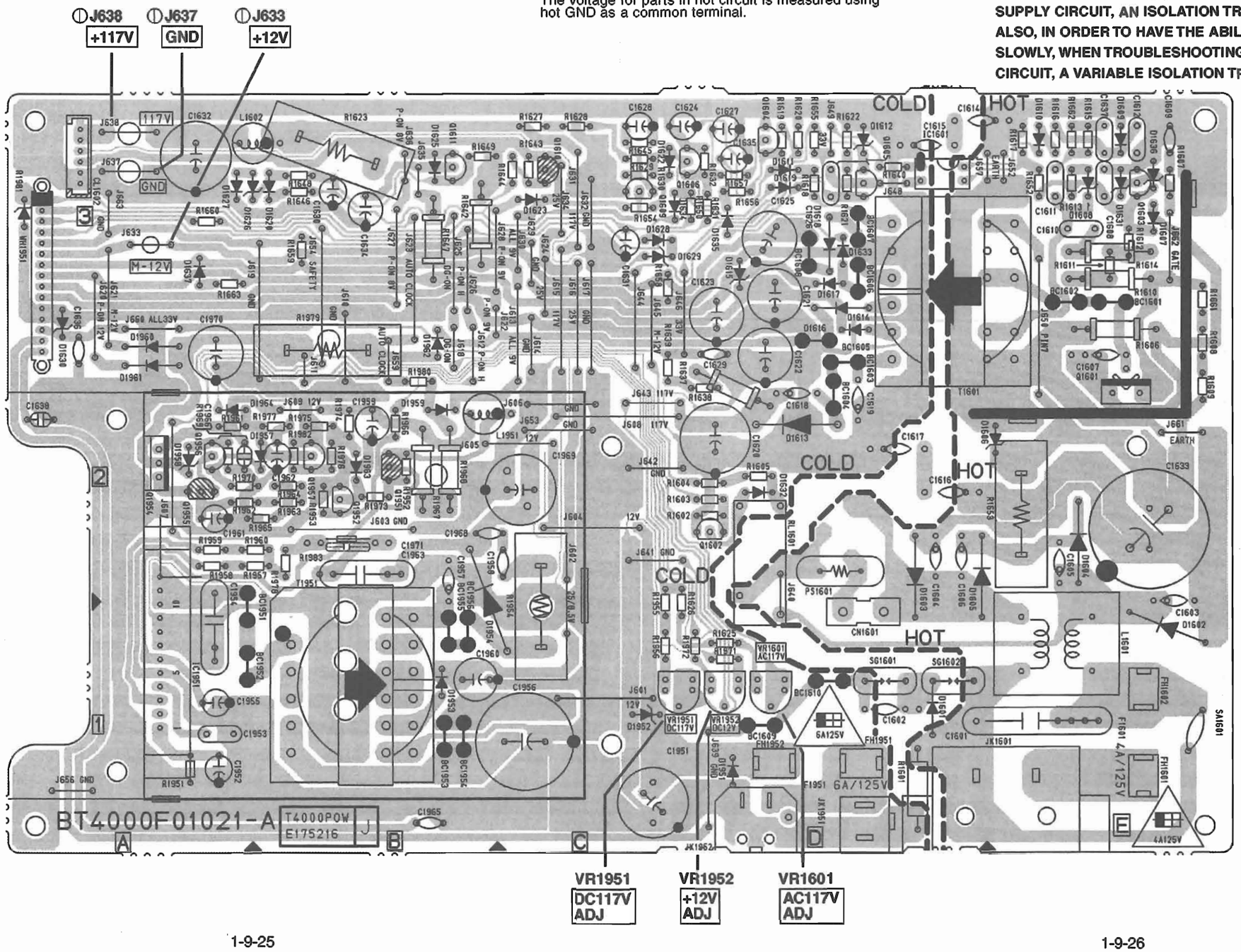
CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



POWER SUPPLY CBA

Ref No.	Potision
ICS	
IC1601	D-3
IC1951	A-1
TRANSISTORS	
Q1601	E-2
Q1603	E-3
Q1604	D-3
Q1605	D-3
Q1606	C-3
Q1609	C-3
Q1610	C-3
Q1611	B-3
Q1951	B-2
Q1952	B-2
Q1954	A-2
Q1955	A-2
Q1956	A-2
Q1957	B-2
TEST POINTS	
J633	A-3
J637	A-3
J638	A-3
CONNECTORS	
CN1601	D-1
CN1602	A-3
WH1951	A-3
ADJUSTMENT	
VR1601	D-1
VR1951	C-1
VR1952	C-1

Power Supply CBA Bottom View

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
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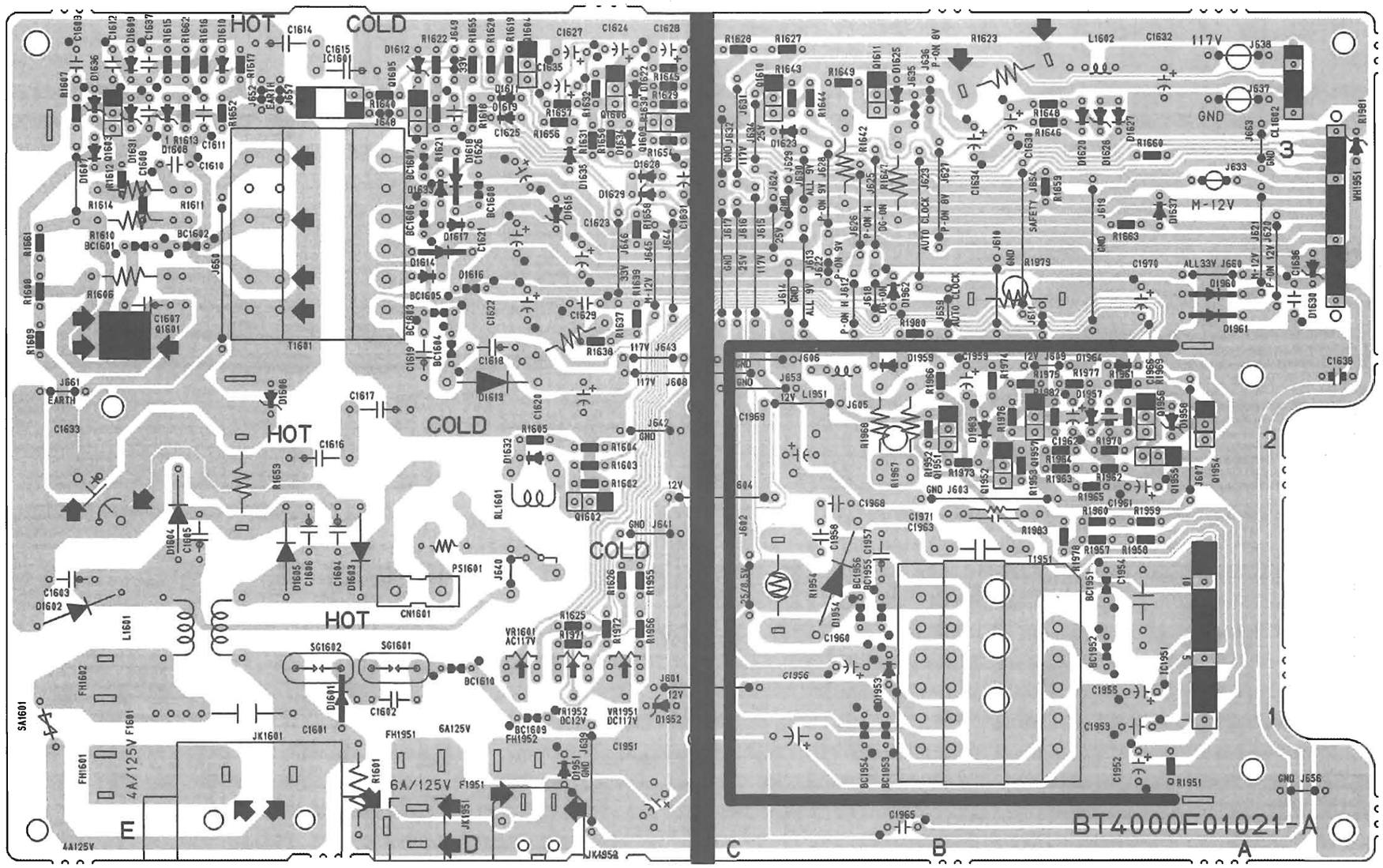
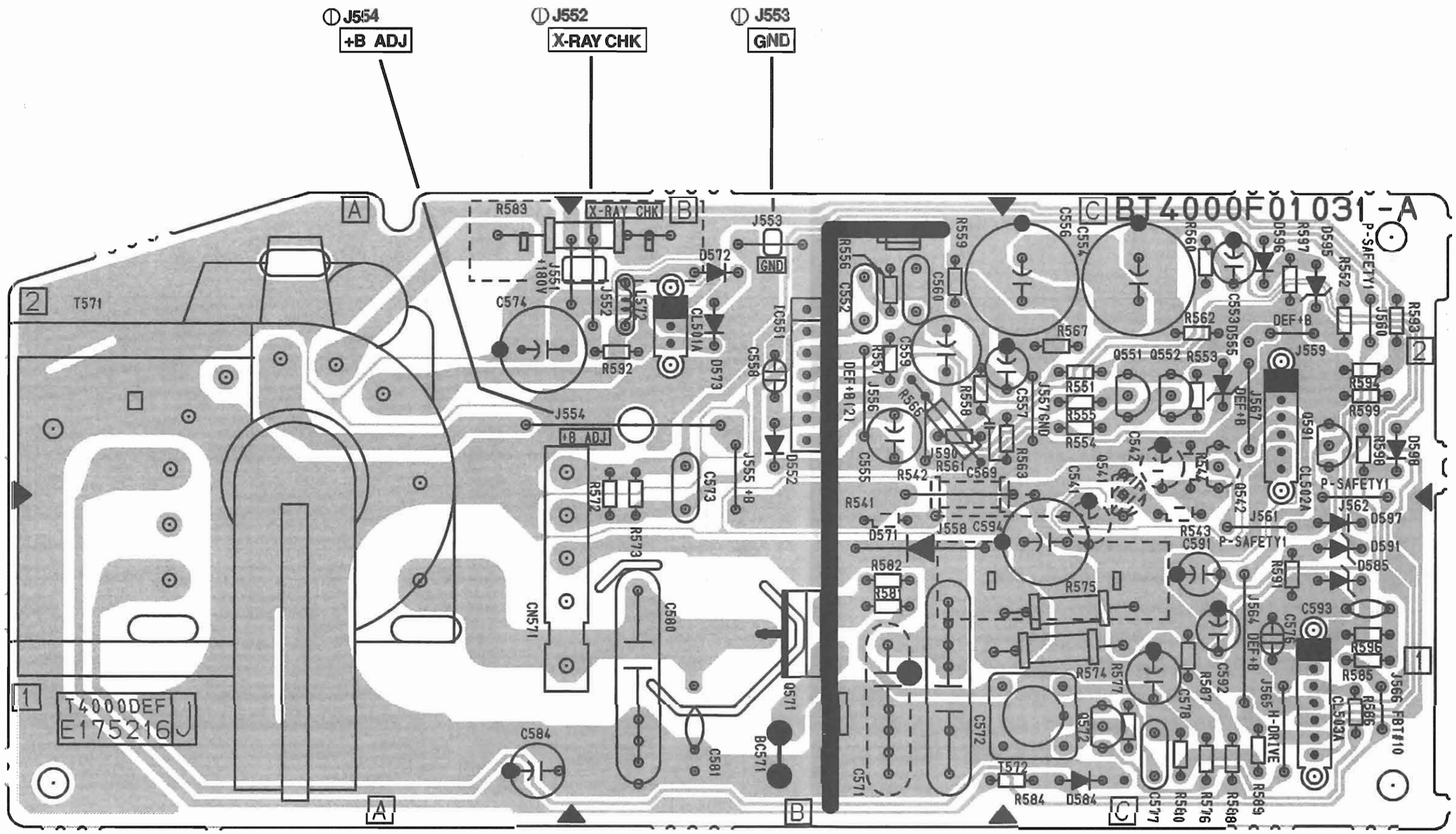
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



H.V. CBA Top View

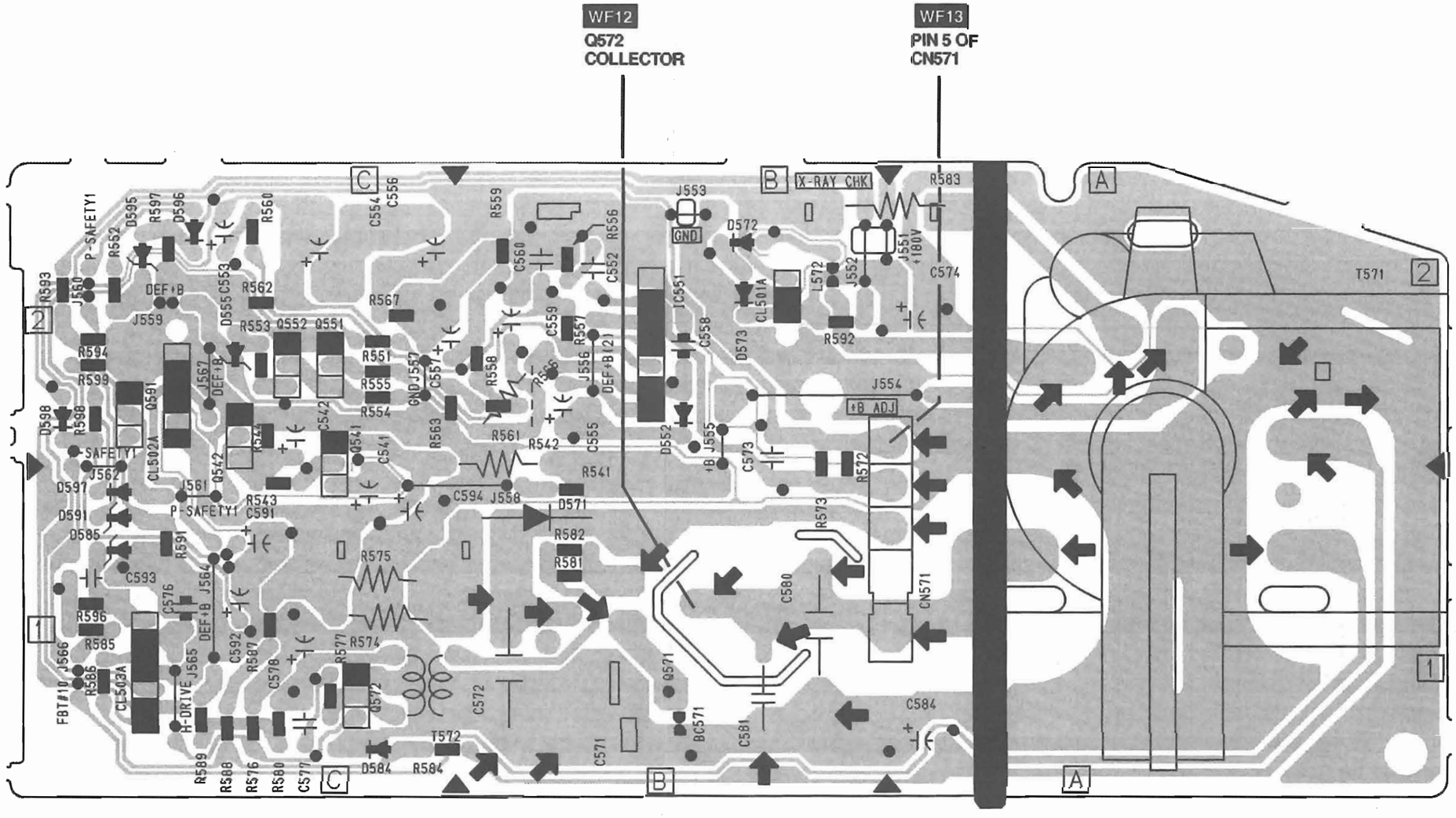


H.V. CBA

Ref No.	Potision
ICS	
IC551	B-2
TRANSISTORS	
Q551	C-2
Q552	C-2
Q571	B-1
Q572	C-1
Q591	C-2
TEST POINTS	
J552	B-2
J553	B-2
J554	B-2
CONNECTORS	
CL501A	E-5
CL502A	C-2
CL503A	C-1
CN571	A-1

9017062

H.V. CBA Bottom View



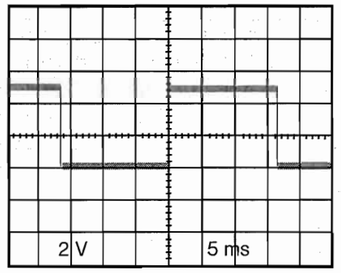
WAVEFORMS

WAVEFORM NOTES

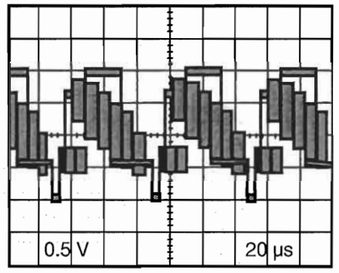
INPUT: NTSC COLOR BAR SIGNAL

OTHER CONTROLS : CENTER POSITION

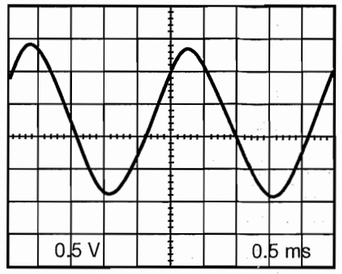
VOLTAGES SHOWN ARE RANGE OF OSCILLOSCOPE SETTING



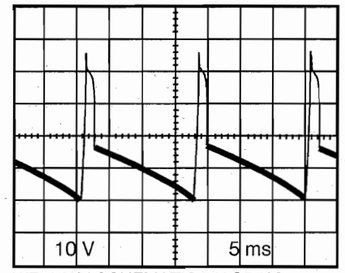
WF1 MAIN 2/3 SCHEMATIC DIAGRAM
J283 RF SW



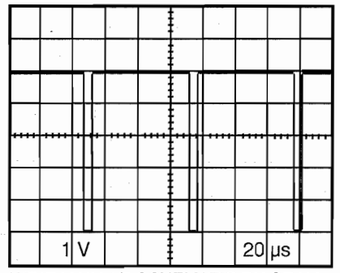
WF5 MAIN 2/3 SCHEMATIC DIAGRAM
J247 V-OUT



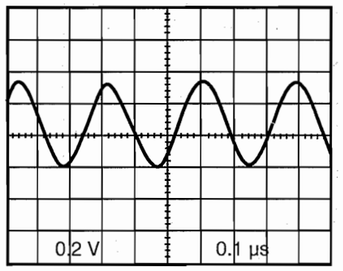
WF9 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 7



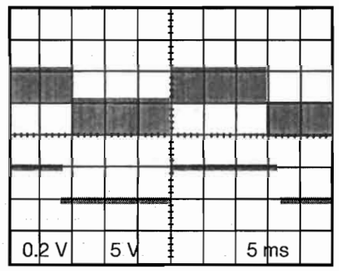
WF13 H/V SCHEMATIC DIAGRAM
CN571 PIN 5



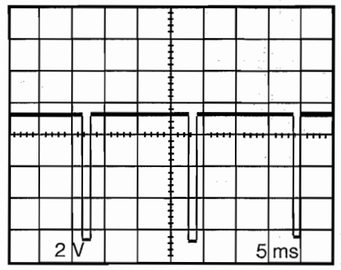
WF17 MAIN 1/3 SCHEMATIC DIAGRAM
IC201 PIN 58



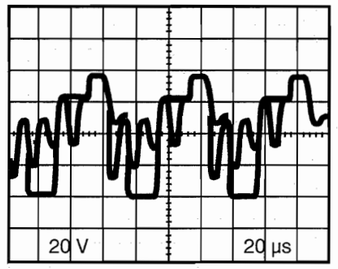
WF2 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 61



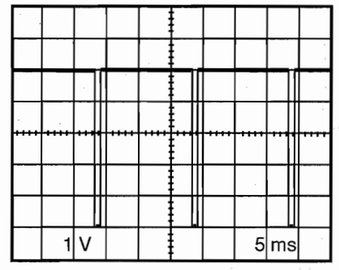
Upper: WF6 Lower: WF1
MAIN 2/3 SCHEMATIC DIAGRAM J232 V-ENV



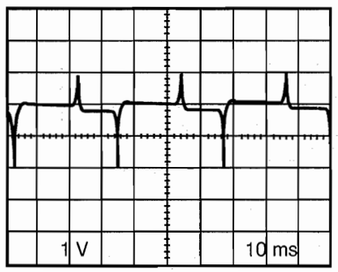
WF10 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 29



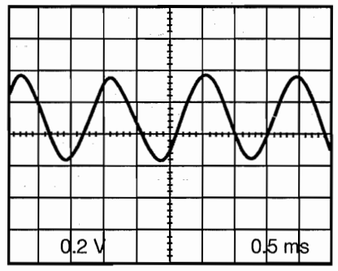
WF14 CRT SCHEMATIC DIAGRAM
Q501 COLLECTOR



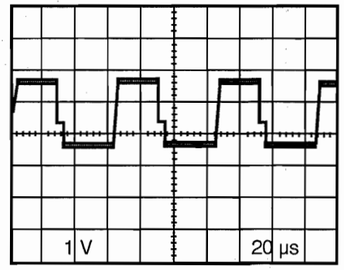
WF18 MAIN 1/3 SCHEMATIC DIAGRAM
IC201 PIN 59



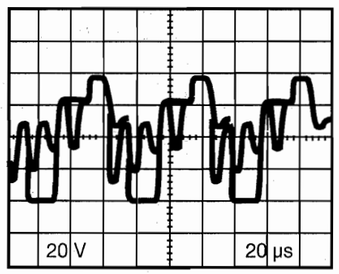
WF3 MAIN 1/3 SCHEMATIC DIAGRAM
J230 CTL



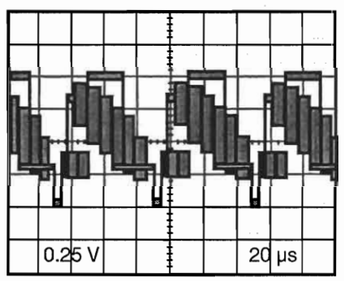
WF7 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 47



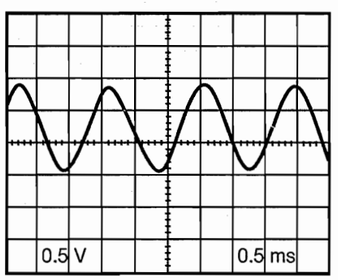
WF11 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 7



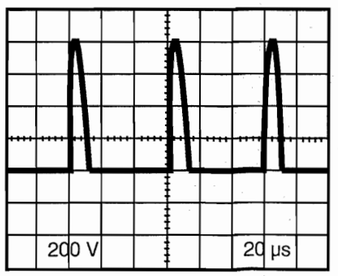
WF15 CRT SCHEMATIC DIAGRAM
Q502 COLLECTOR



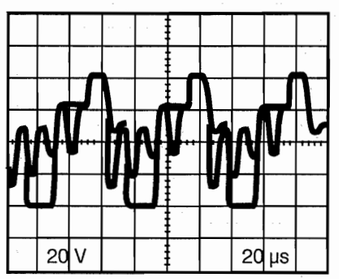
WF4 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 38



WF8 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 96

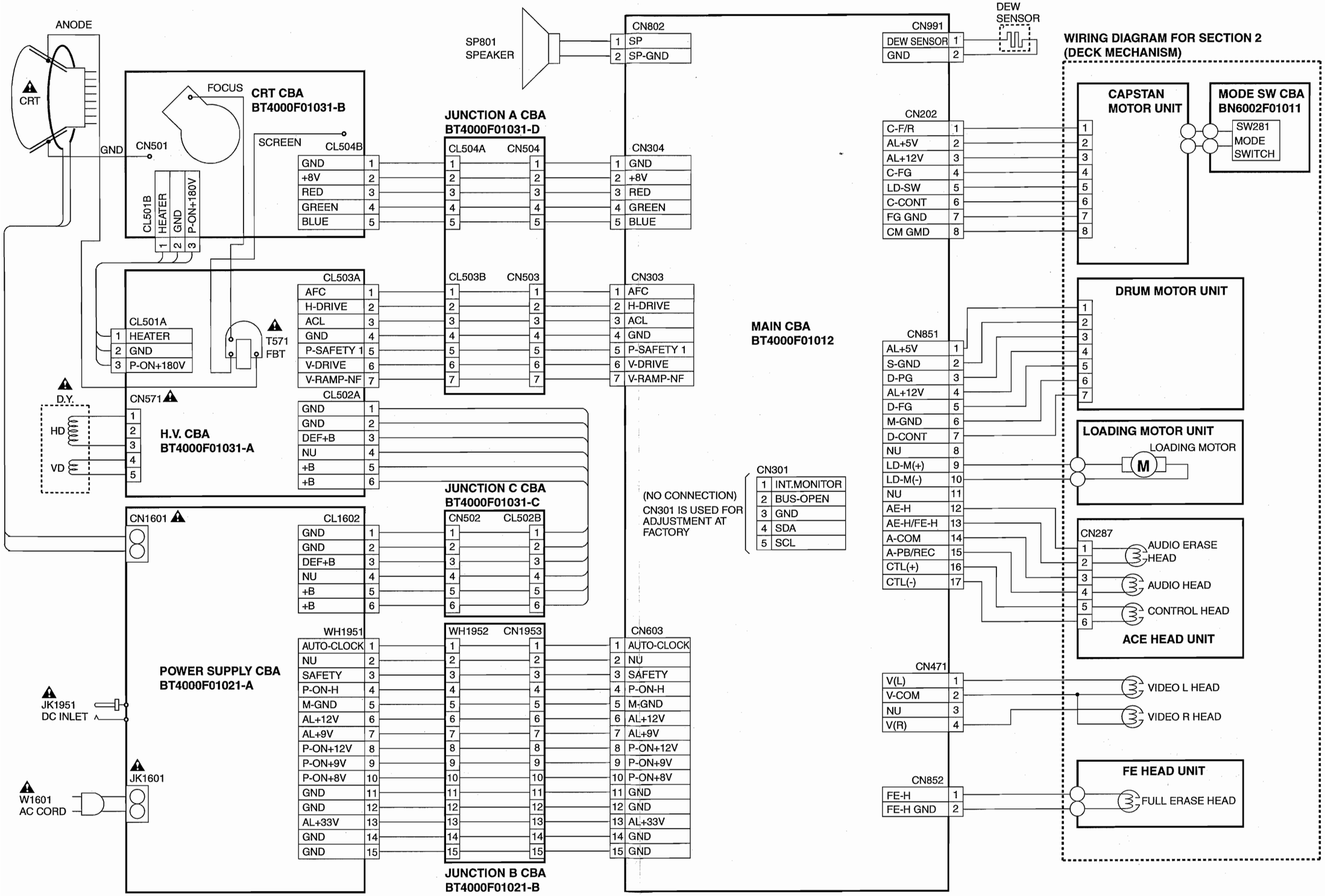


WF12 H/V SCHEMATIC DIAGRAM
Q571 COLLECTOR



WF16 CRT SCHEMATIC DIAGRAM
Q503 COLLECTOR

WIRING DIAGRAM



SYSTEM CONTROL TIMING CHARTS

Chart 1

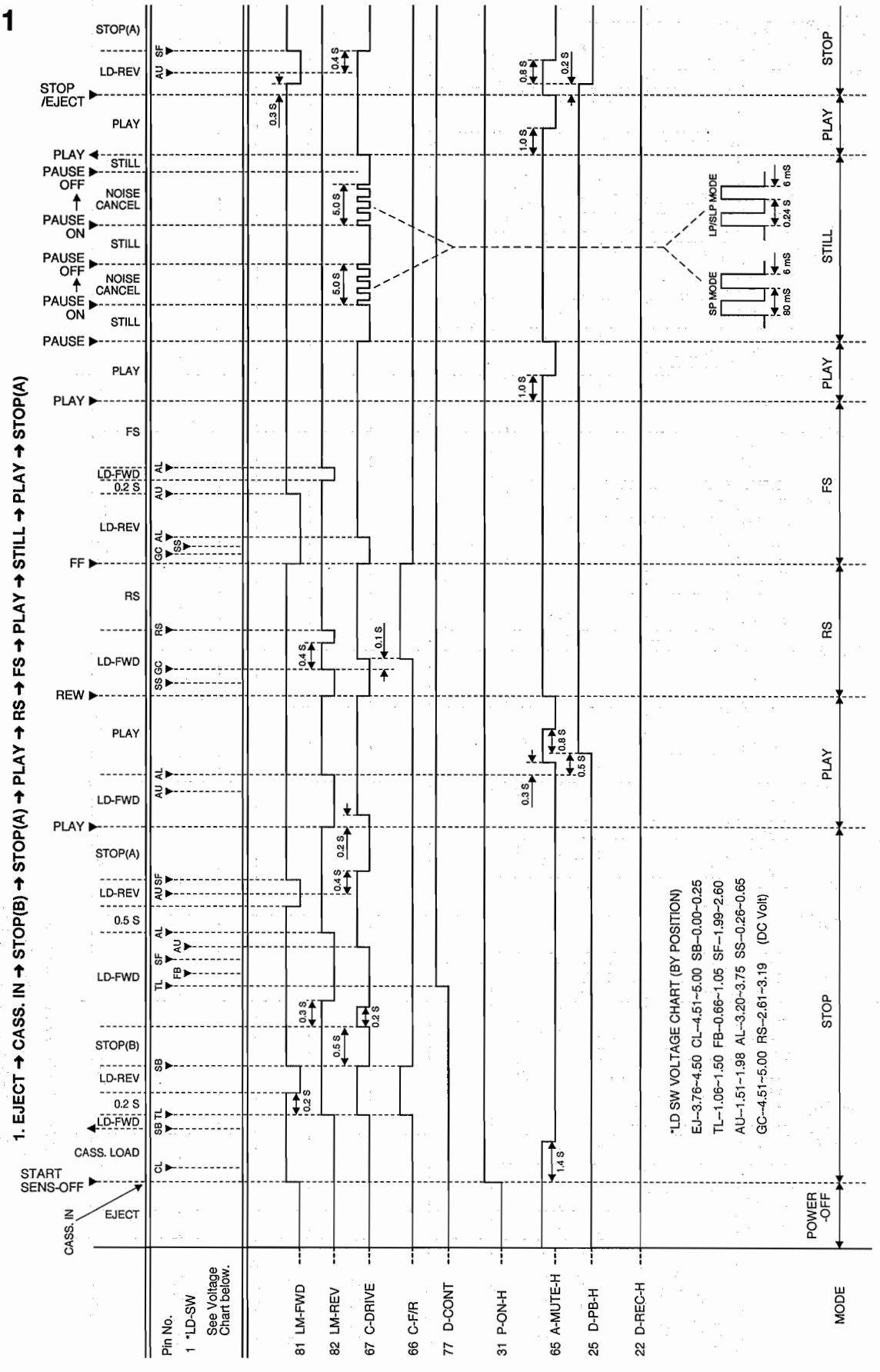
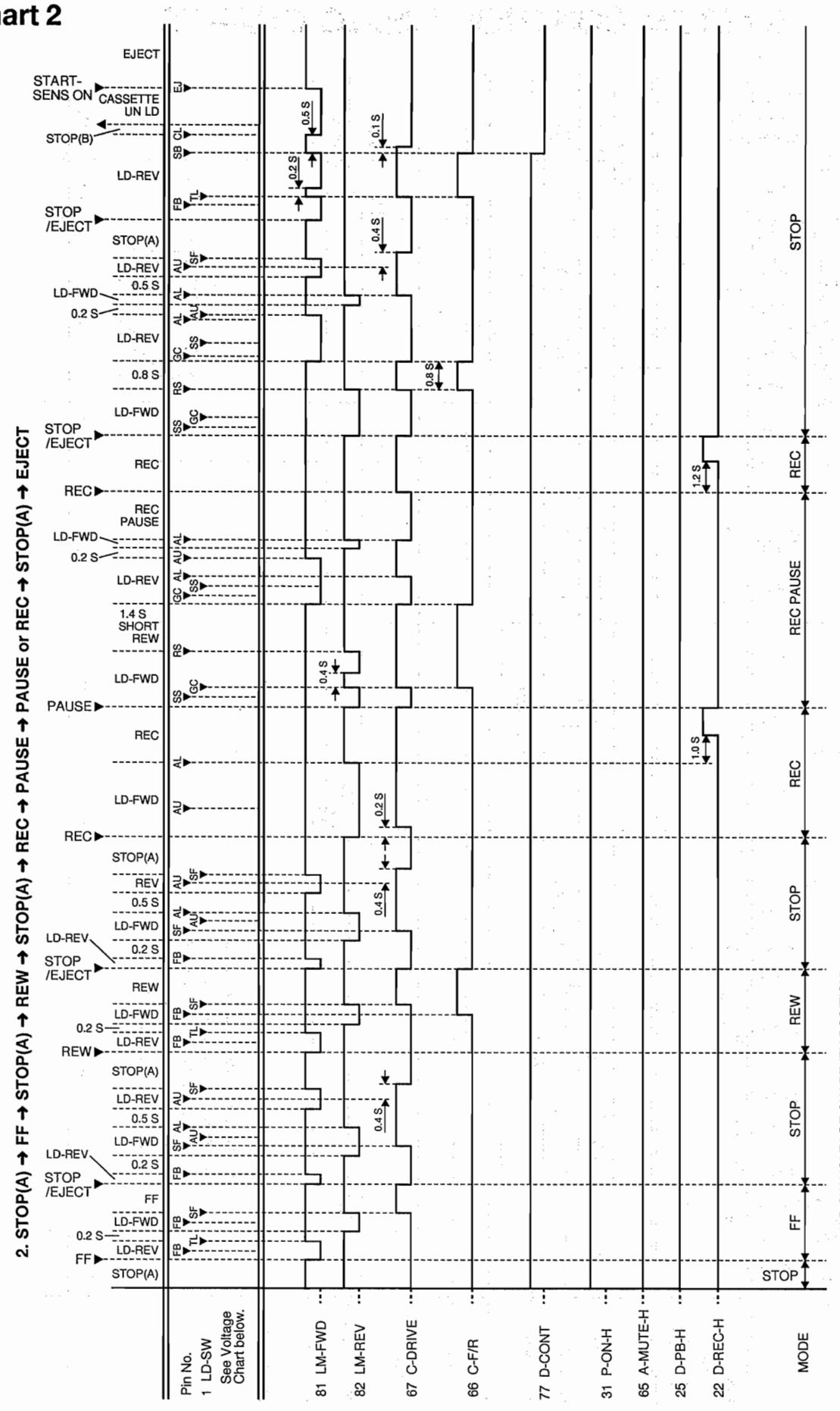


Chart 2


2. STOP(A) → FF → STOP(A) → REW → STOP(A) → REC → PAUSE → PAUSE or REC → STOP(A) → EJECT
EJECT
START-SENS ON
CASSETTE UN LD
STOP(B)
LD-REV
STOP /EJECT
STOP(A)
LD-REV
0.5 S
LD-FWD
0.2 S
LD-REV
0.8 S
LD-FWD
STOP /EJECT
REC
REC
REC PAUSE
LD-FWD
0.2 S
LD-REV
1.4 S SHORT REW
LD-FWD
PAUSE
REC
LD-FWD
REC
STOP(A)
REV
0.5 S
LD-FWD
LD-REV
0.2 S
STOP /EJECT
REW
LD-FWD
0.2 S
LD-REV
REW
STOP(A)
LD-REV
0.5 S
LD-FWD
LD-REV
0.2 S
STOP /EJECT
FF
LD-FWD
0.2 S
LD-REV
FF
STOP(A)
Pin No.
1 LD-SW
See Voltage Chart below.
0.5 S
0.2 S
0.1 S
0.4 S
0.8 S
1.2 S
1.0 S
81 LM-FWD
82 LM-REV
67 C-DRIVE
66 C-F/R
77 D-CONT
31 P-ON-H
65 A-MUTE-H
25 D-PB-H
22 D-REC-H
MODE
STOP
FF
STOP
REW
STOP
REC
REC PAUSE
REC
STOP
*LD SW VOLTAGE CHART (BY POSITION)
EJ–3.76~4.50 CL–4.51~5.00 SB–0.00~0.25
TL–1.06~1.50 FB–0.66~1.05 SF–1.99~2.60
AU–1.51~1.98 AL–3.20~3.75 SS–0.26~0.65
GC–4.51~5.00 RS–2.61~3.19 (DC Volt)

IC PIN FUNCTION DESCRIPTIONS

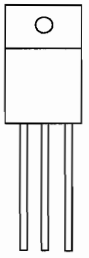
IC 201 (TV/VCR Micro Computer)

Pin No.	In/ Out	Signal Name	Function
1	In	LD-SW	Loading Switch Input
2	In	P-SAFETY 1	Power Supply Failure Detection 1
3	In	P-SAFETY 2	Power Supply Failure Detection 2
4	In	P-SAFETY 3	Power Supply Failure Detection 3
5	In	KEY0	Key 0 Input
6	In	KEY1	Key 1 Input
7	In	END-SENS	End-Sensor
8		DEW	Dew Sensor
9	In	ST-SENS	Start-Sensor
10	In	V-ENV	Video Envelope Input
11			Not used
12	Out	V-MUTE	Video Mute Output
13	Out	D-V SYNC	Artificial V-Sync Output
14	In	REMOTE	Remote signal Input
15	Out	ROTA	ROTA Output
16			Not Used
17			Not Used
18	Out	RF-SW	RF-SW Output
19			Not Used
20	Out	LP/SLP-H	Tape Speed Output
21	Out	SLP-H	Tape Speed Output
22	Out	D-REC-H	Recording Output
23	Out	REC-LED	Recording LED
24	Out	REC-LED	Recording LED
25	Out	D-PB-H	Playback Output
26	--		Not Used
27		AUTO CLOCK	Auto Clock
28	--		Not Used
29	Out	EXT-L	External Input Selection
30	--		Not Used
31	Out	P-ON-H	P-ON Output
32	I/O	SPL-PLY	Special Play back Output
33	In	REC SAFETY	Record Protection Tab Detection
34	In	RESET	Reset
35	In	Xc-in	Oscillator C Input
36	Out	Xc-out	Oscillator C Output
37		TIMER+5	Timer+5V In
38	In	X-in	Oscillator Input
39	Out	X-out	Oscillator Output
40		GND	GND
41	Out	SPOT-KILL	Counter-measure for Spot
42			Not used
43	In	CLKSEL	Clock Select
44			Not used
45			Not used
46		GND	GND
47			Not used
48			Not used
49		GND	OSD GND
50			Not used
51			Not used
52			Not used
53	--	P-ON +5V	OSD Vcc
54	--	HLF	HLF
55	In	VHOLD	VHOLD
56	In	CVIN	Video Signal Input
57		GND	GND
58	In	H-SYNC	H-Sync Input
59	In	V-SYNC	V-Sync Input
60	Out	OUT	Output for Picture Cut off
61	Out	D-PB-L	Playback Output
62	Out	B	Blue Output
63	Out	G	Green Output
64	Out	R	Red Output
65	Out	A-MUTE	Audio Mute Output
66	Out	C-F/R	Capstan Direction Output

Pin No.	In/ Out	Signal Name	Function
67	I/O	C-DRIVE	Capstan Drive Output
68			Not used
69			Not used
70			Not used
71	Out	SCL	E2PROM/CHROMA IC Tuner Communication Clock
72	I/O	SDA	E2PROM/CHROMA IC Tuner Communication Data
73			Not used
74		C-SYNC	C-SYNC out
75			Not used
76	Out	C-CONT	Capstan Control Output
77	Out	D-CONT	Drum Control Output
78	Out	S-LED	Sensor LED
79			Not used
80	In	T-REEL	Take up Reel Pulse in
81	Out	LM-FWD	LD-FWD Output
82	Out	LM-REW	LD-REW Output
83	Out	SP-MUTE	Speaker Mute Output
84	Out	P-DOWN-L	Power Down Detection
85	In	BUS-OPEN	White Balance Adjustment Mode
86			Not used
87	In	C-FG	Capstan-FG Input
88		GND	GND (AMP)
89	In	D-FG	Drum-FG Input
90	In	D-PG	Drum-PG Input
91			Not used
92	In	AMP Vref in	Standard Voltage Input
93		C	Ext. Capacitor Connection Port for Analog Amp
94	I/O	CTL (-)	CTL (-)
95	I/O	CTL (+)	CTL (+)
96		AMPC	AMPC
97	Out	CTL AMPout	CTL Amp Output
98	--	P-ON+5V	Power Supply for AMP
99	--	ALL+5V	A/D, D/A Standard Voltage
100	In	X-RAY	X-Ray Protection

LEAD IDENTIFICATIONS

2SK2079

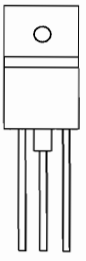


G: Gate
D: Drain
S: Souce

G D S

KIA7805

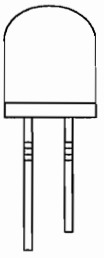
2SA1469
TT2024



E: Emitter
C: Collector
B: Base

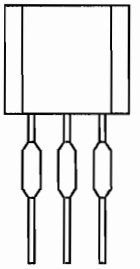
B C E

SIR-56ST3F
ST319R2-B

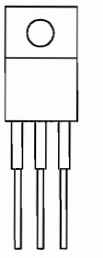


E C

BMR-0101C

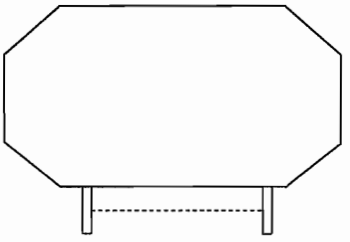


OUT G IN



IN G OUT

IC1951



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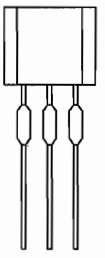

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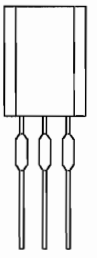
KRC103M

E C B



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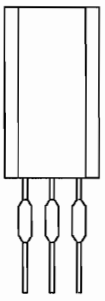
2SC2120
2SC3331
KTC3199
KTA1267

E C B



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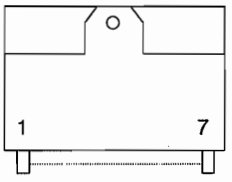
2SD4000

LA7840



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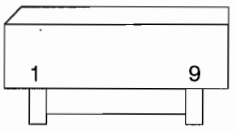

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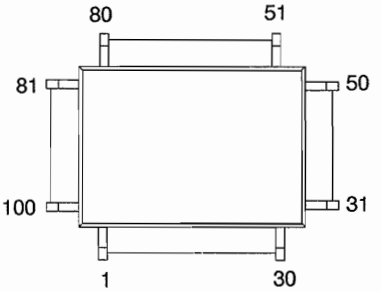
LA7107*M
M37760MCA***GP



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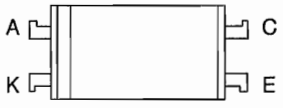
81 50
100 31
1 30

PC817X6



A C
K E

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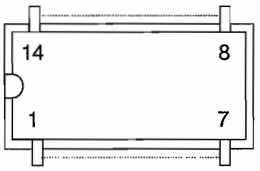

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1 7

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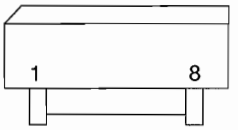
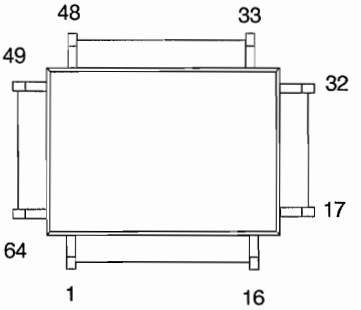


1 8

M5277*FP



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64
1 16

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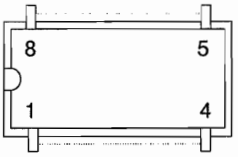


8 5
1 4

DECK MECHANISM SECTION

9" COLOR TV/VCR COMBINATION

SSC099

Sec. 2: Deck Mechanism Section

- **Standard Maintenance**
- **Alignment for Mechanism**
- **Disassembly/Assembly of Mechanism**

TABLE OF CONTENTS

Standard Maintenance 2-1-1
Service Fixtures and Tools 2-2-1
Mechanical Alignment Procedures 2-3-1
Disassembly/Assembly Procedures of Deck Mechanism 2-4-1
Front Loading Assembly 2-4-8
Alignment Procedure of Mechanism 2-4-10

STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ❍: Check ●: Change

Deck		Periodic Service Schedule			
Ref. No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	❍	●	❍	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B21	Loading Belt		●		●
B27	Tension Lever Assembly		●		●
B31	AC Head Assembly			●	
B32, B339	Reel (T), Reel (S)			●	
B37	Capstan Motor		●		●
B52	Capstan Belt		●		●
*B73	FE Head CBA			●	
B132	Clutch Assembly		●		●
B133	Idler Assembly		●		●
B410	Pinch Roller Assembly		●		●
B413	Main Brake T Sub Assembly		●		●
B414	Main Brake S Assembly		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

   * B73 ------ VCR Model only

Cleaning

Cleaning of Video Head

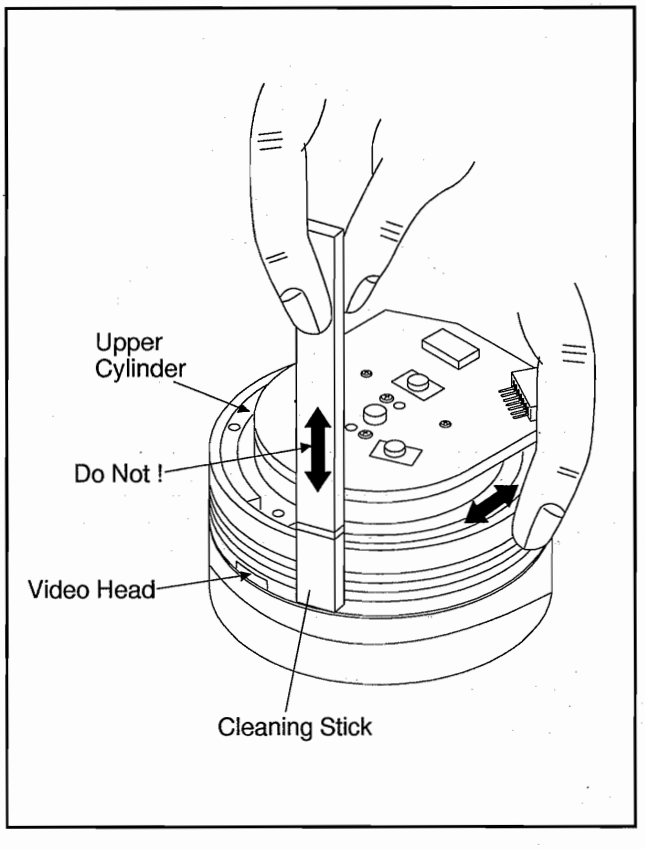
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of Audio Control Head

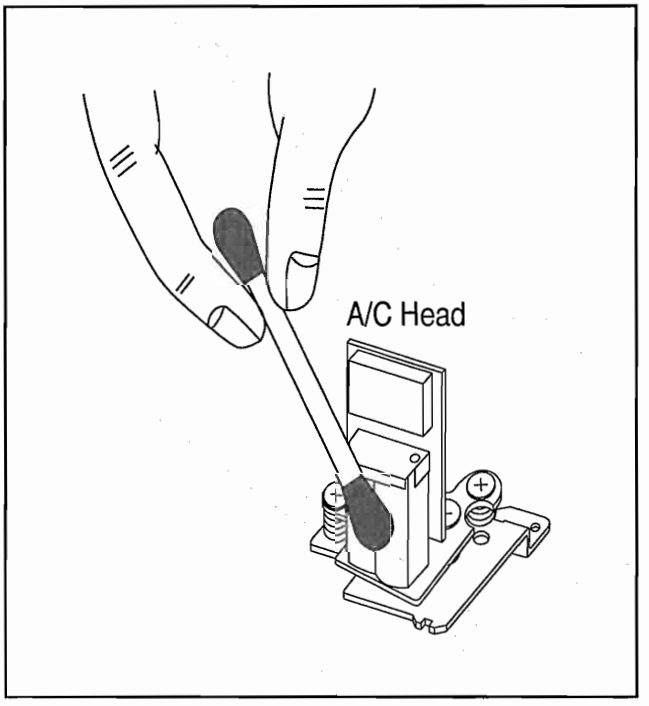
Clean the head with a cotton swab.

Procedure

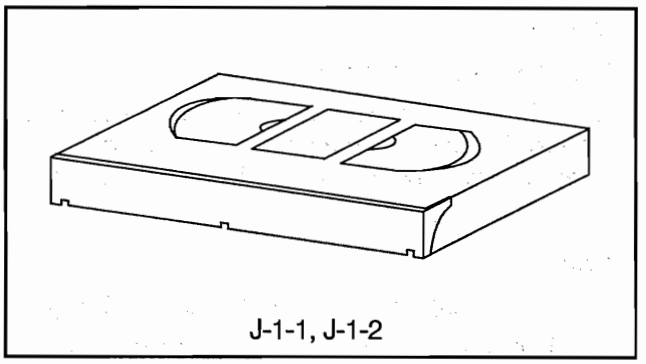
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

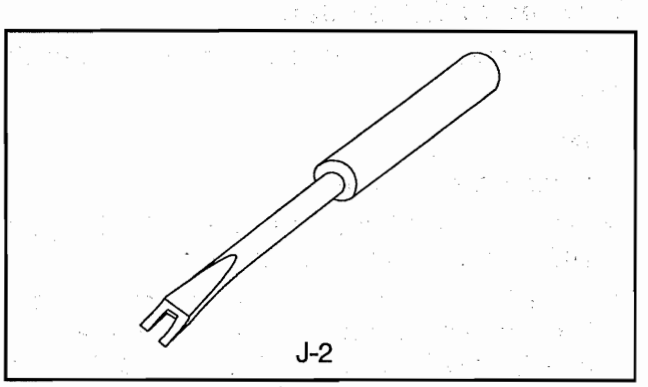
1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



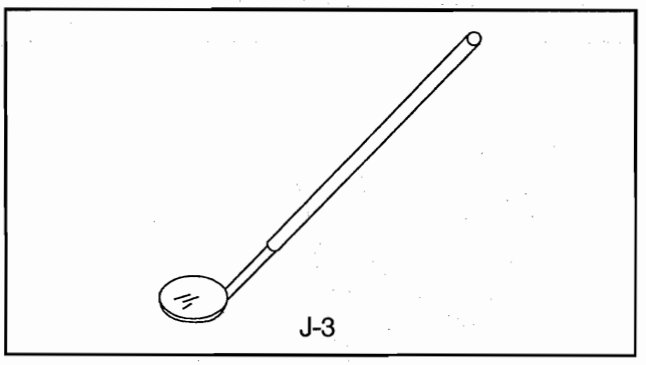
SERVICE FIXTURE AND TOOLS



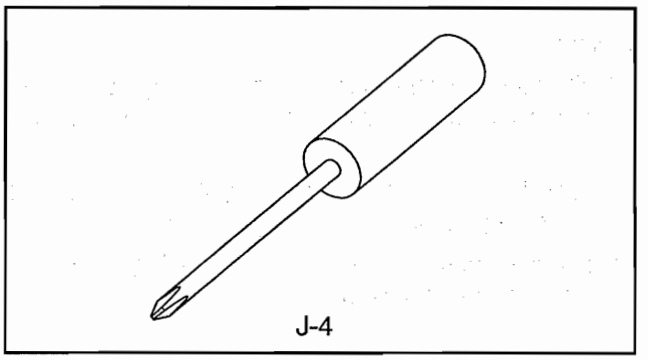
J-1-1, J-1-2



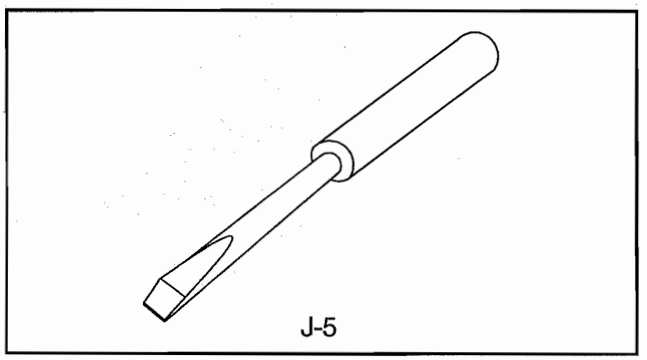
J-2



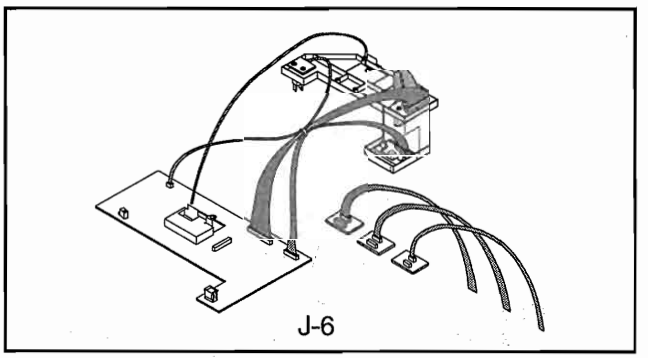
J-3



J-4



J-5



J-6

Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL8A	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape	FL8N (2Head only) FL8NW (4Head only)	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj.Screwdriver	FSJ-0006	Guide Roller
J-3	Mirror	FSJ-0004	Tape Transportation Check
J-4	Azimuth Adj.Screwdriver +	Available Locally	A/C Head Height
J-5	X Value Adj.Screwdriver -	Available Locally	X Value
J-6	U19 Deck Extension Cable	N1200XA	All Mechanical and Electrical Adjustments

Note:
Before starting any adjustment, take the Deck Assembly out of the cabinet and use J-6 to connect the Deck Assembly with the Main CBA.

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Cover.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1 until the cassette tape is fully loaded. By turning the Pulley Assembly, you are turning the cam indicated in this figure. However, movement of the cam will be very slow. Allow a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Cover.
3. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1 to unload the cassette tape. When turning the Pulley Assembly, please be aware that this is a long process and the cassette will not start getting unloaded instantaneously. Within this long process, before the cassette actually starts getting unloaded, there is a time period during which the moving guide assemblies slide back to their original positions shown in Fig. M1. However, the tape will be left wound around the cylinder. To put the tape back into the cassette, gently turn the Capstan Motor in the direction shown in Fig. M2. Make sure that the tape is completely placed back in the cassette before the cassette starts getting unloaded. Otherwise the tape hanging out will be caught and damaged by the lid of the cassette when it closes.
   By turning the Pulley Assembly, you are turning the cam indicated in Fig. M1. As stated, movement of the cam will be very slow. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Cover.
3. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the Pulley Assembly until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

Top View

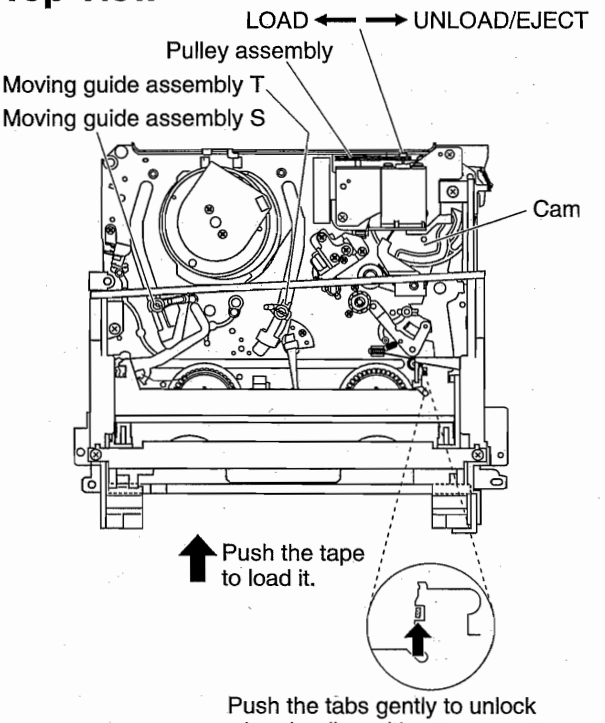


Fig. M1

Bottom View

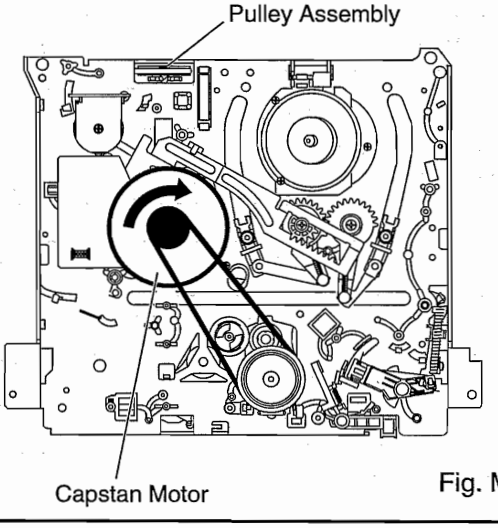


Fig. M2

1. Tape Interchangeability Alignment

Notes:

1. To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

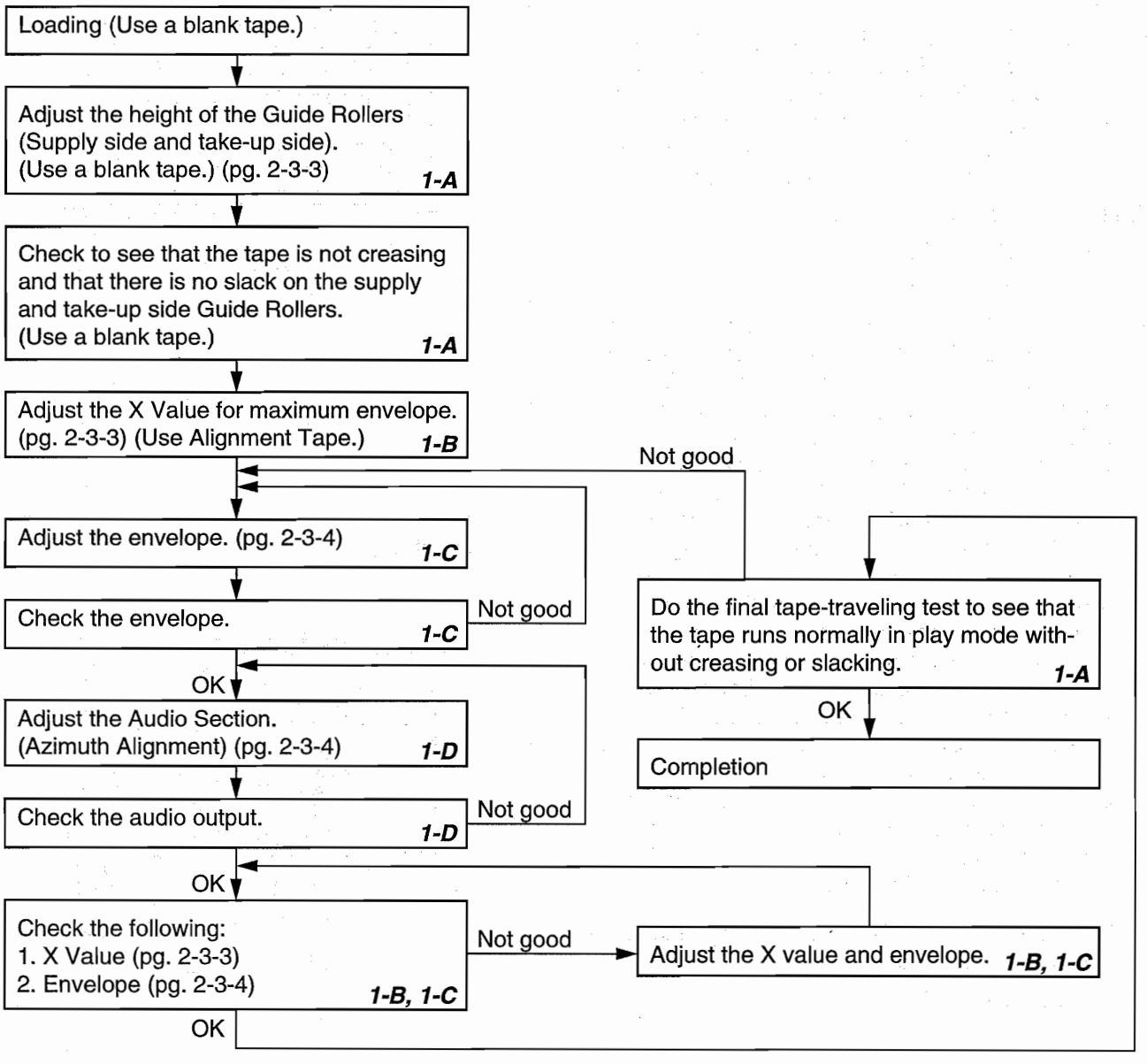
2. Remove the Guide Holder R before begining alignment procedures.
(Refer to page 2-4-9. Fig: DM22).

Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (FL8N)
Guide Roller Adj. Screwdriver
X-Value Adj. Screwdriver

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Play back a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)
   Note: Beneath each Guide Roller, there is a small screw. (Refer to Fig. M5.) This screw works to apply adequate torque to the shaft of each Guide Roller so that the Guide Roller turns properly. Even when adjusting the height of the Guide Roller(s), do not touch these two small screws.
3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)

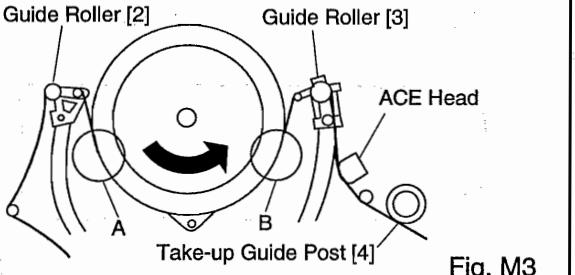


Fig. M3

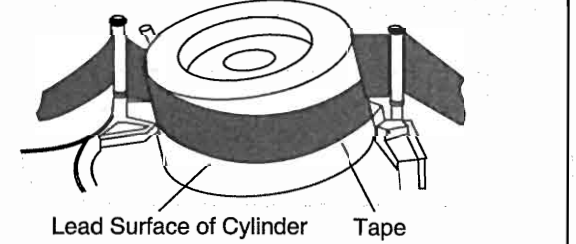


Fig. M4

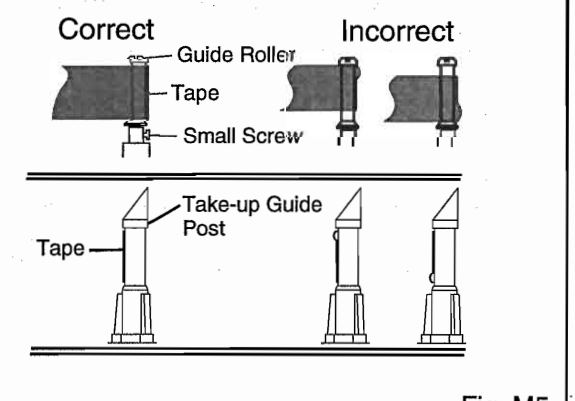


Fig. M5

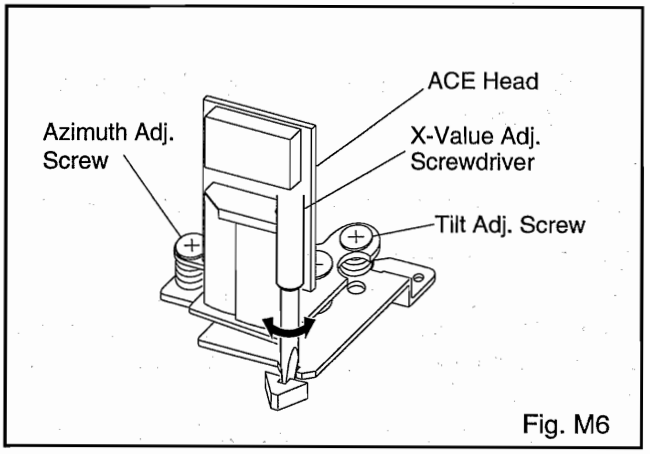


Fig. M6

1-B. X Value Alignment

Purpose:

To align the horizontal position of the Audio/Control/Erase Head.

Symptom of Misalignment:

If the horizontal position of the Audio/Control/Erase Head is not properly aligned, maximum envelope cannot be obtained at the Neutral position of the Tracking Control Circuit.

1. Connect the oscilloscope to J232 (V-ENV) and J230 (CTL) on the Main CBA. Use J283 (RF-SW) as a trigger.
2. Play back the Gray Scale of the Alignment Tape (FL8N) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the center position by pressing the CH UP button then the PLAY button on the VCR. (Refer to note on bottom of page 2-3-4.)
4. Use the X-Value Adj. Screwdriver so that the PB FM signal at J232 (V-ENV) is maximum. (Fig. M6)
5. Press the CH UP button on VCR until the CTL waveform has shifted by approx. +2msec. Make sure that the envelope is simply attenuated (shrinks in height) during this process so that you will know the envelope has been at its peak.

6. Press the CH DOWN button on the VCR until the CTL waveform has shifted from its original position (not the position achieved in step 5, but the position of CTL waveform in step 4) by approximately -2msec. Make sure that the envelope is simply attenuated (shrinks in height) once CTL waveform passes its original position and is further brought in the minus direction.
7. Set the Tracking Control Circuit to the center position by pressing the CH UP button and then the PLAY button on the VCR.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to J232 (V-ENV) on the Main CBA. Use J283 (RF-SW) as a trigger.
2. Play back the Gray Scale on the Alignment Tape (FL8N). Set the Tracking Control Circuit to the center position by pressing the CH UP and then the PLAY button on the VCR. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the CH UP or DOWN buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure center position. The number of pushes UP to achieve 1/2 level of envelope should match the number of pushes DOWN from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Play back the alignment tape (FL8N) and confirm that the audio signal output level is 6 kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Dropping envelope level at the beginning of track.

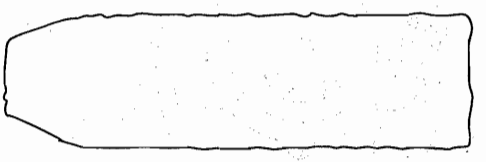


Fig. M7

Dropping envelope level at the end of track.

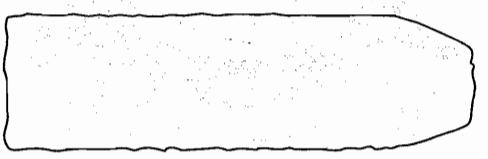


Fig. M8

Envelope is adjusted properly. (No envelope drop)

Fig. M9

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Main Mechanism

Before following the procedures described below, be sure to:

1. Remove the deck assembly from the cabinet.
   (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-6-1.)
2. Remove Front Loading Assembly from the main mechanism of the deck assembly. (See Fig. DM1.)
3. First remove Step/Loc. No. [39], and start to remove other parts. (See Fig. DM1.)
4. Before Step/Loc. No. [2] and [9] first remove ACH Connector A, ACH Connector B, VH Connector A, and VH Connector B. (See Fig. DM2.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [37] and [38] in Fig. DM3 on page 2-4-4. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Cylinder Shield	T	DM1	(S-2), (S-14)	
[2]	[2]	Loading Motor Assembly	T	DM2 DM3 DM5 DM6	(S-3), Loading Belt ACH Connectors A and B, FFC Cable	
[3]	[2]	Motor Holder	T	DM1 DM3 DM5	2(S-4)	
[4]	[2]	Cassette Drive Lever Sub Assembly	T	DM3 DM5		(+) Refer to Alignment Sec. Pg. 2-4-10
[5]	[2]	Pinch Roller Assembly	T	DM3 DM5	(C-1)	Refer to Alignment Sec. Pg. 2-4-10
[6]	[6]	Mode SW CBA	B	DM4 DM5	(S-5), Desolder	
[7]	[2]	Cam	T	DM3 DM5		(+) Refer to Alignment Sec. Pg. 2-4-10
[8]	[2]	Pulley Assembly	T	DM3 DM6	(W-1), Loading Belt	(+)
[9]	[9]	Cylinder Assembly	T B	DM2 DM3 DM7	3(S-6), *VH Connectors A and B, FFC Cable	
[10]	[10]	FE Head	T	DM3 DM7	(S-7)	
[11]	[11]	ACE Head Assembly	T	DM2 DM3 DM8	(S-8), (S-16), FFC Cable	
[12]	[12]	Tape Guide Arm Assembly	T	DM3 DM8	*(P-0), *(L-1)	
[13]	[12]	Capstan Motor	B T	DM4 DM5 DM9 DM16	4(S-9), Capstan Belt, Radiator Plate, Desolder	
[14]	[14]	M Brake S Assembly	T	DM3 DM10	*(L-4)	
[15]	[15]	Tension Lever Assembly	T	DM3 DM10	*(L-2), *(L-3), *(P-1), *(P-2)	
[16]	[16]	Rec Arm	B	DM4 DM11	*(L-5)	
[17]	[17]	BT Arm	B	DM4 DM10 DM11	*(L-6), *(P-2)	
[18]	[17]	Holder Kick Arm	B	DM4 DM11	*(P-3)	
[19]	[17]	Tension Plate	B	DM4 DM11		
[20]	[17]	Mode Lever	T	DM3 DM12	*4(L-7), *(L-8), *Locking Tab	

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[21]	[17]	Idler Assembly	T	DM3 DM13	(C-4)	
[22]	[15]	S Brake Lever	T	DM3 DM14	*(P-4), *(L-10)	
[23]	[17]	M Brake T sub Assembly	T	DM3 DM13	*(P-5), *(L-11)	
[24]	[15]	Reel S	T	DM3 DM14	Poly Slider Washer	(+) Base has slots.
[25]	[17]	Reel T	T	DM3 DM14	Poly Slider Washer	(+)
[26]	[26]	M Gear	T	DM3 DM14	(C-5)	
[27]	[2]	Main Lever Assembly	T	DM3 DM15		
[28]	[2]	M Lever Holder	T	DM3 DM15	*2(L-12)	
[29]	[29]	Clutch Assembly	B	DM4 DM16	(C-2), Capstan Belt, Poly Slider Washer	(+)
[30]	[29]	FF Arm	B	DM4 DM16	*2(L-13)	
[31]	[31]	Sensor Gear	B	DM4 DM17	(C-3)	
[32]	[32]	Main Lever Spring	T	DM3 DM8		
[33]	[33]	Prism	T	DM3 DM13	(S-10)	
[34]	[12]	Loading Lever Assembly	B	DM4 DM18	(S-11)	(+) Refer to Alignment Sec. Pg. 2-4-10
[35]	[34]	Loading Arm T Assembly	B	DM4 DM18		(+) Refer to Alignment Sec. Pg. 2-4-10
[36]	[34]	Loading Arm S Assembly	B	DM4 DM18	(S-15)	(+) Refer to Alignment Sec. Pg. 2-4-10
[37]	[2]	Moving Guide S Preparation	T	DM3 DM19		
[38]	[2]	Moving Guide T Preparation	T	DM3 DM19		
[39]	[39]	Deck Earth Plate	T	DM1 DM3	(S-12)	
[40]	[40]	Cleaner Assembly	T	DM3 DM7	*(L-14)	
[41]	[41]	Insulation Cover	T	DM3 DM13	*3(L-15)	
[42]	[42]	Prism (L2)	T	DM3 DM8	(S-17)	
↓ ①	↓ ②	↓ ③	↓ ④	↓ ⑤	↓ ⑥	↓ ⑦

①: Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as Identification (location) No. of parts in the figures.

②: Indicates the part to start disassembling with in order to disassemble the part in column (1).

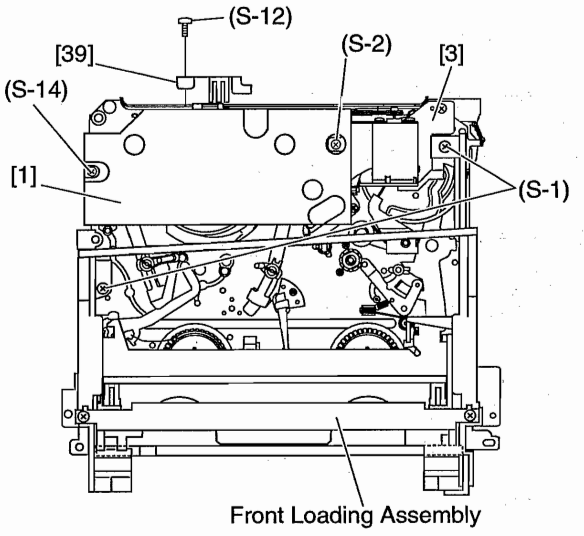
③: Name of the part

④: Location of the part: T=Top B=Bottom R=Right L=Left

⑤: Figure Number

⑥: Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication.



Note: Remove the Front Loading Assembly before removing [3] Motor Holder.

To remove Front Loading Assembly:
1. Remove 2 Screws; 2(S-1).
2. Lift Assembly up carefully.

Fig. DM1

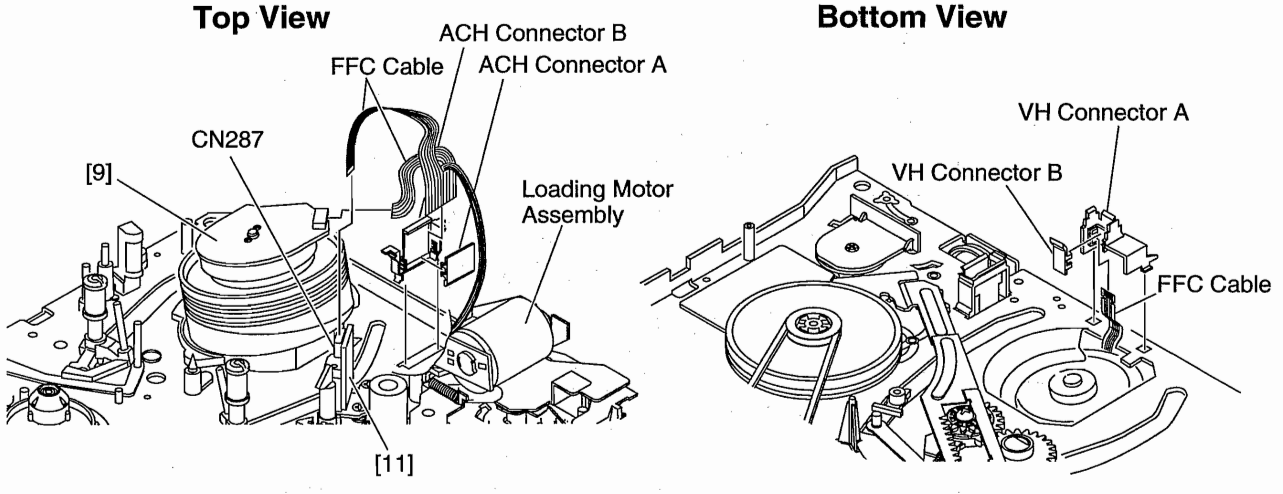


Fig. DM2

Top View

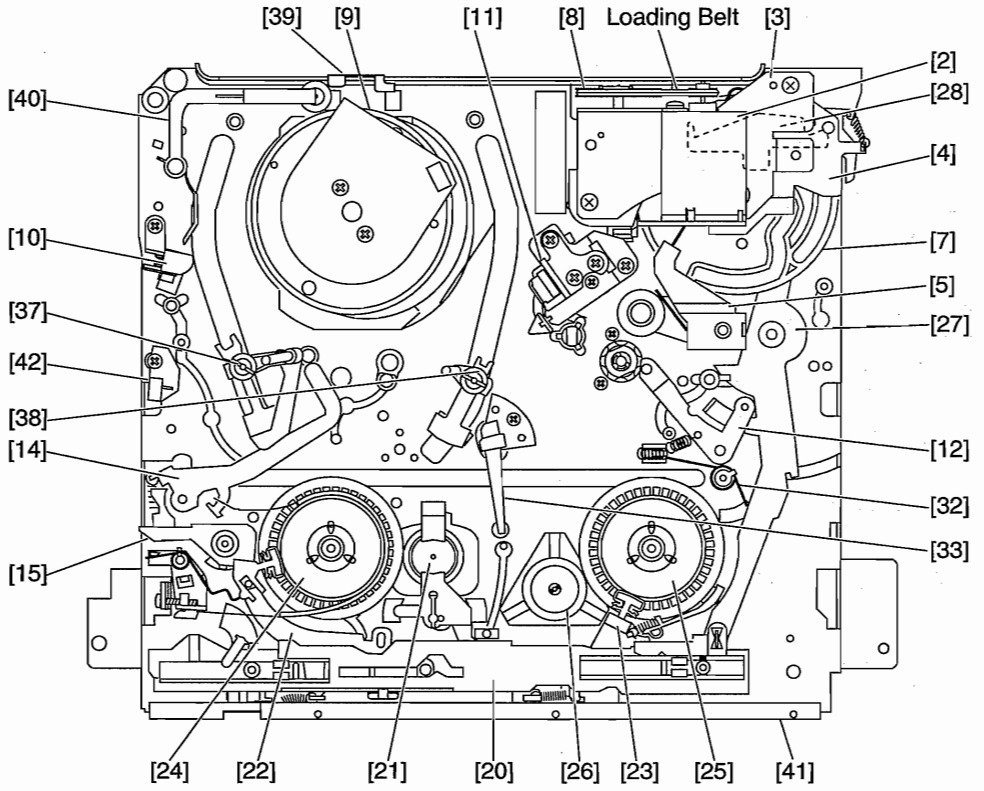


Fig. DM3

Bottom View

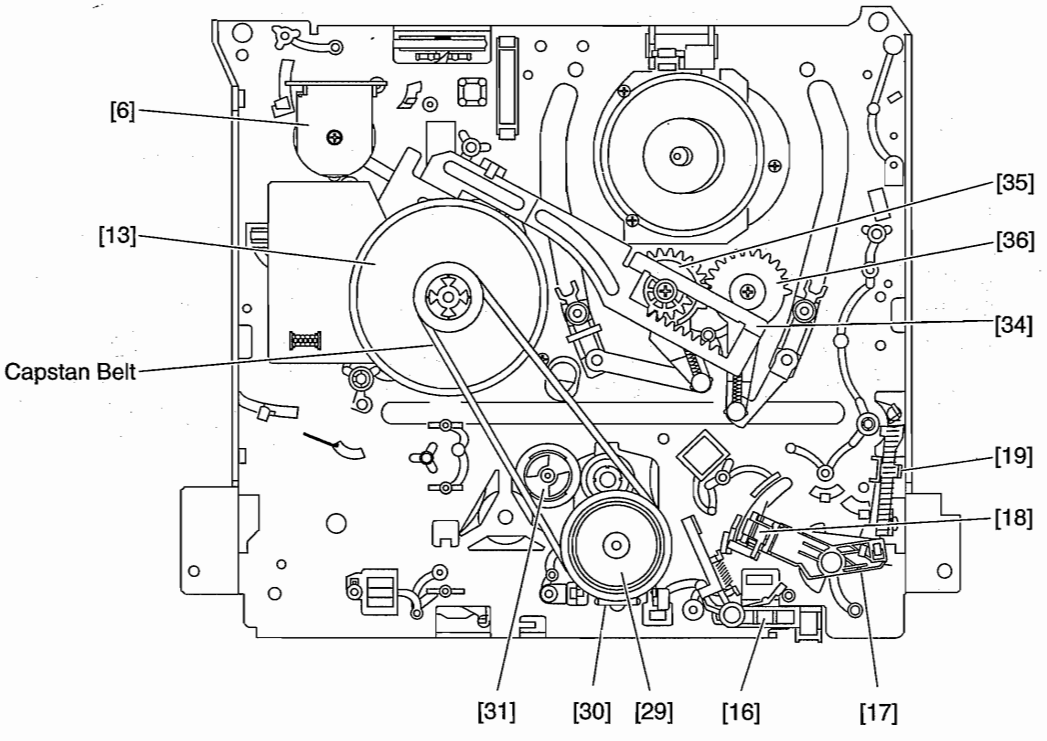
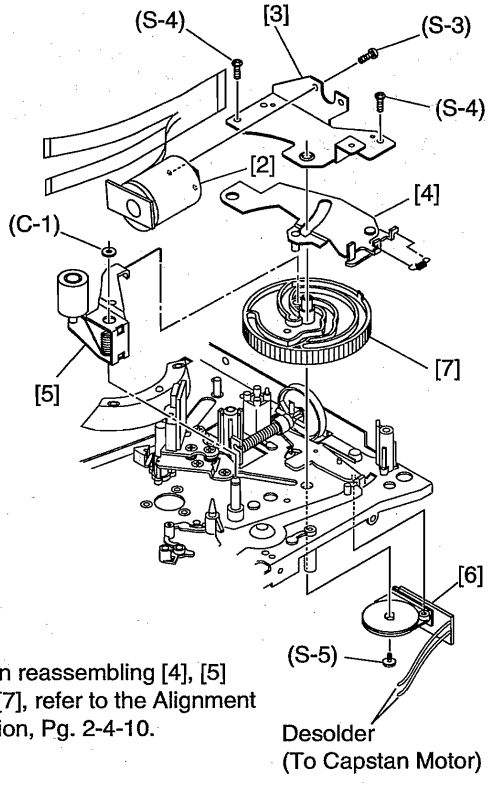


Fig. DM4



When reassembling [4], [5] and [7], refer to the Alignment Section, Pg. 2-4-10.

Fig. DM5

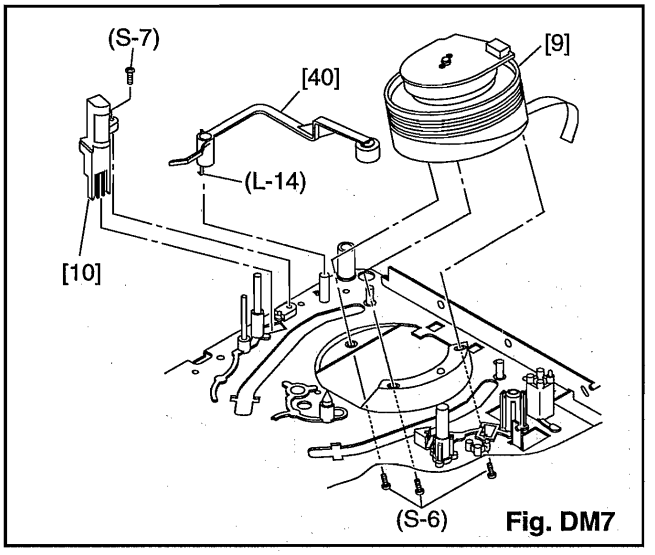


Fig. DM7

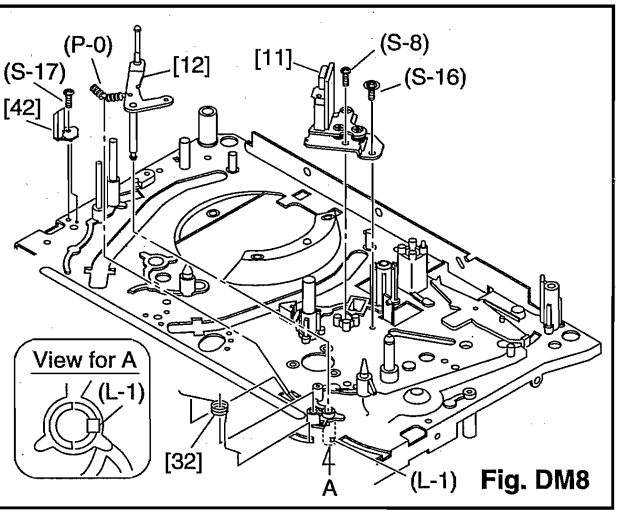
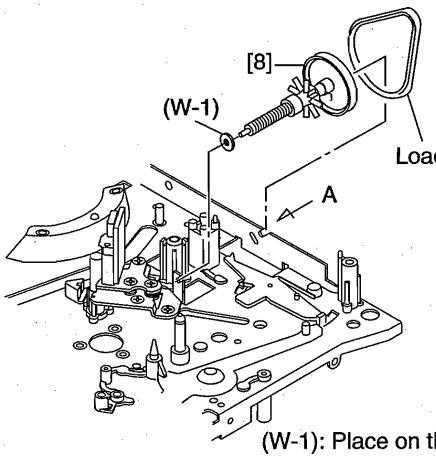


Fig. DM8



(W-1): Place on the shaft, and then install.

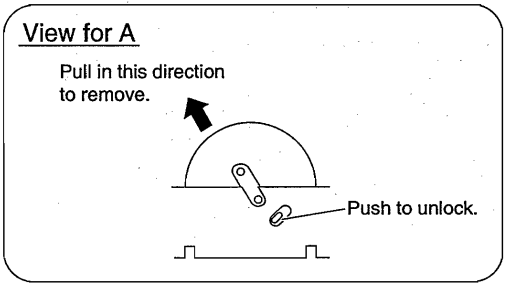


Fig. DM6

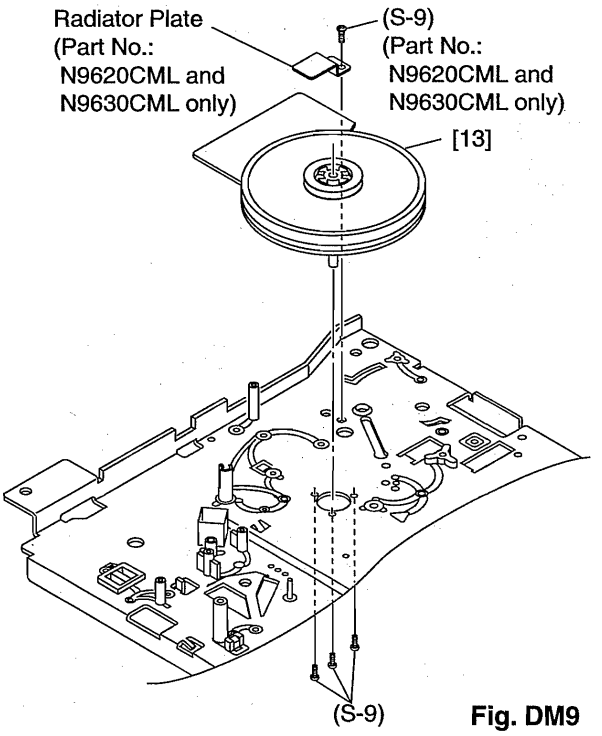


Fig. DM9

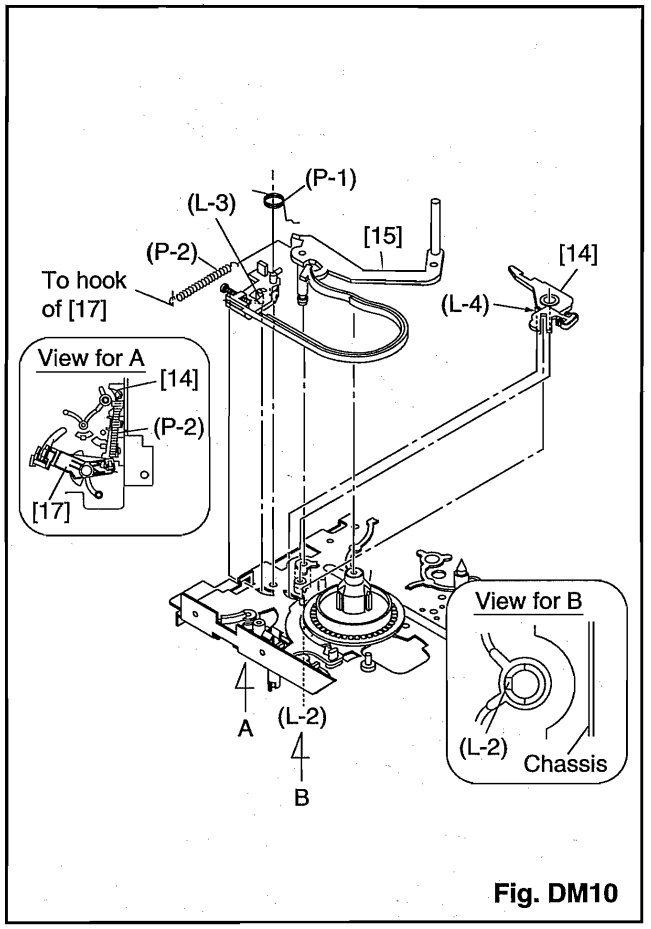


Fig. DM10

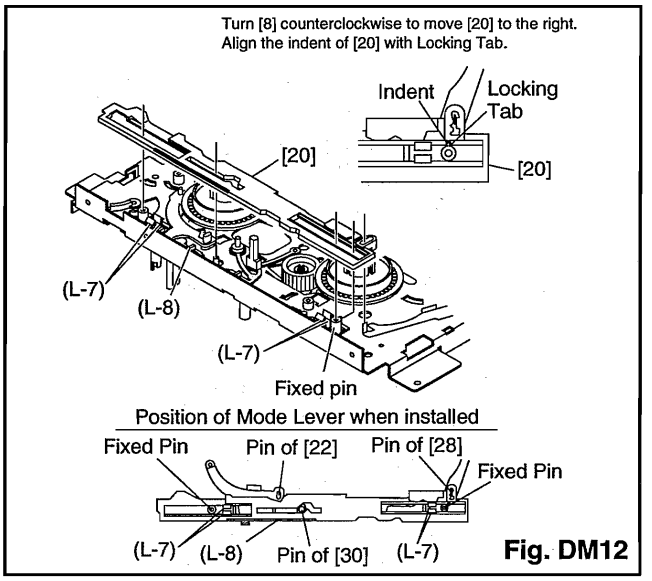


Fig. DM12

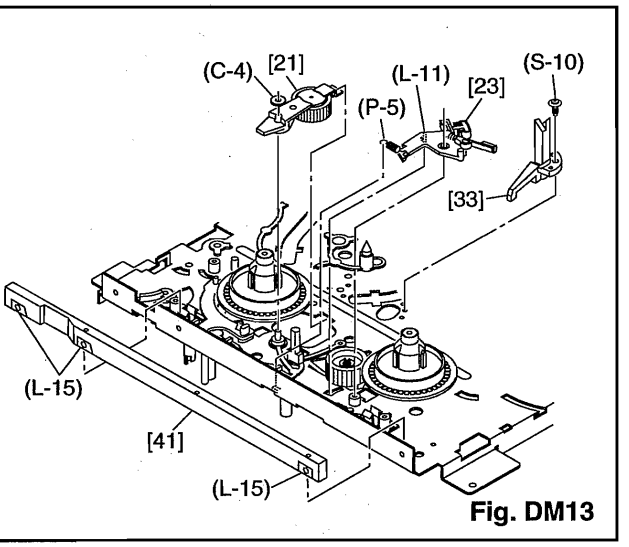


Fig. DM13

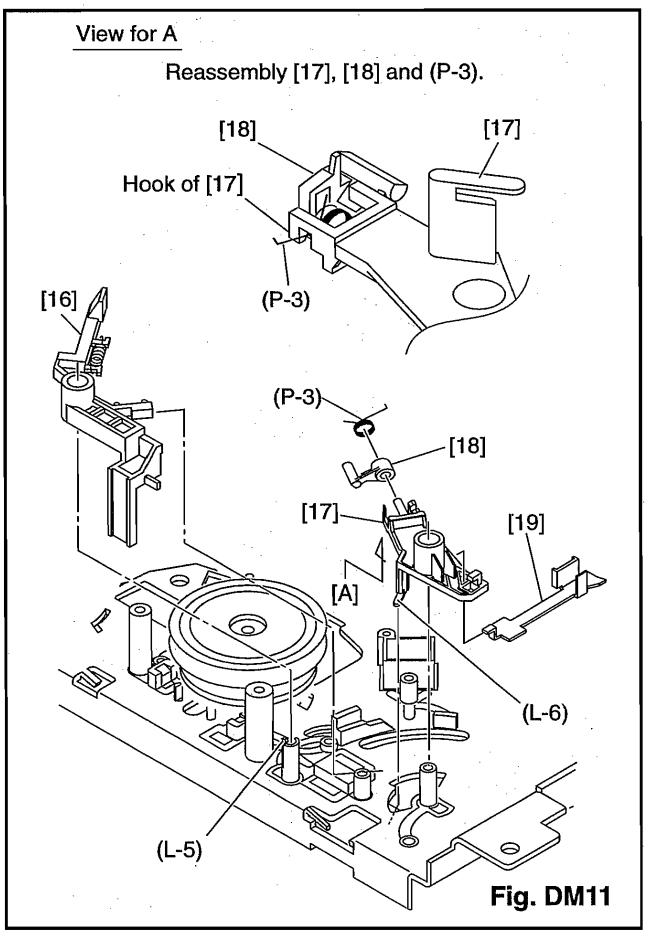


Fig. DM11

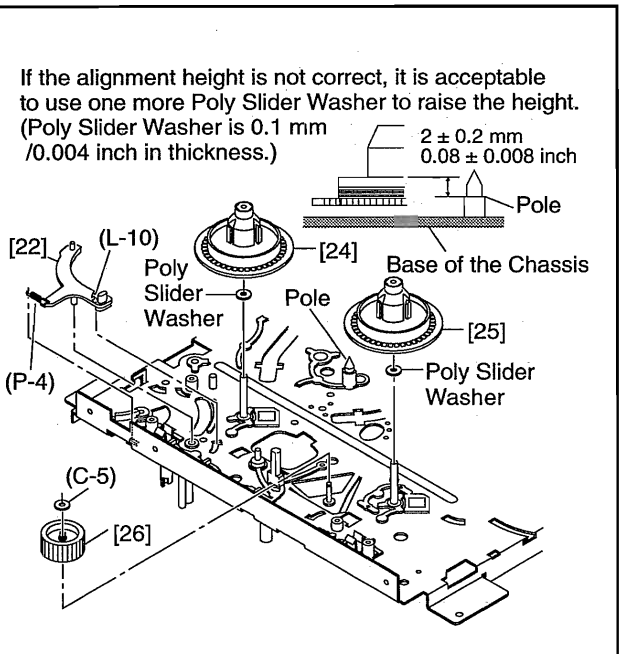


Fig. DM14

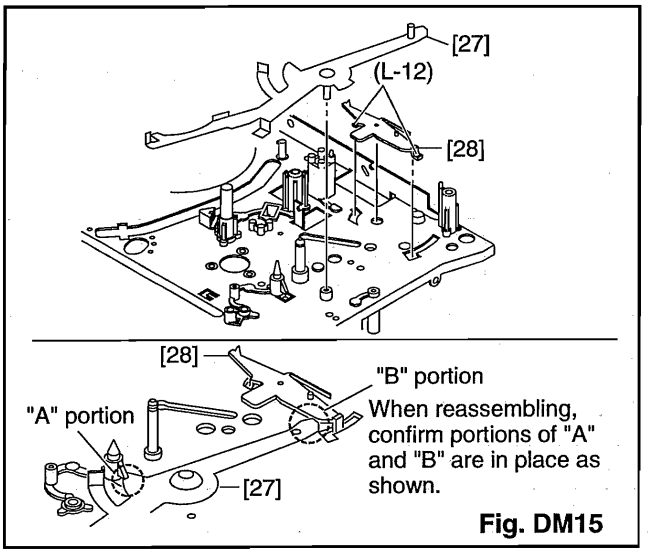


Fig. DM15

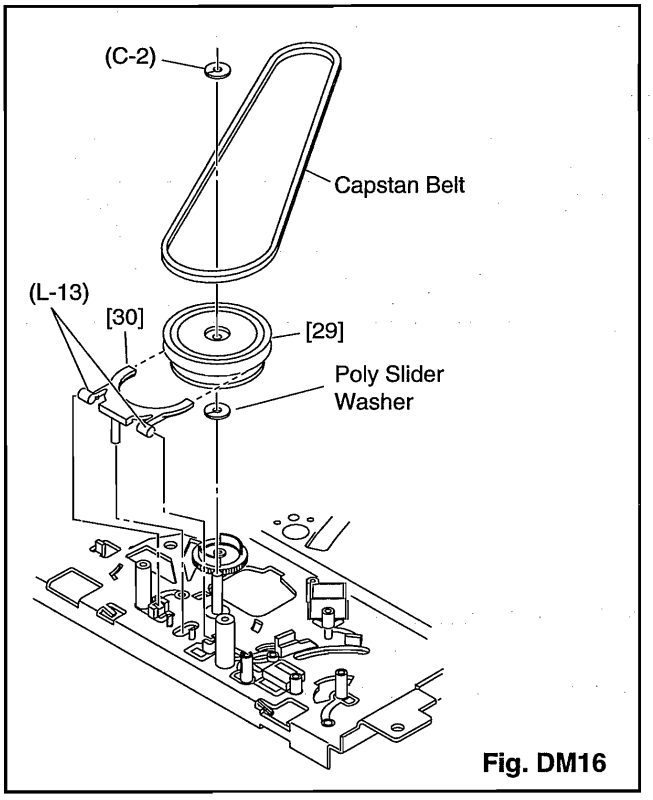


Fig. DM16

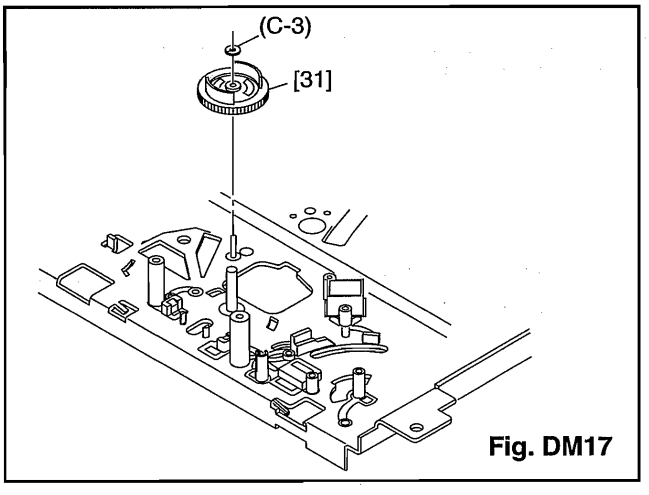


Fig. DM17

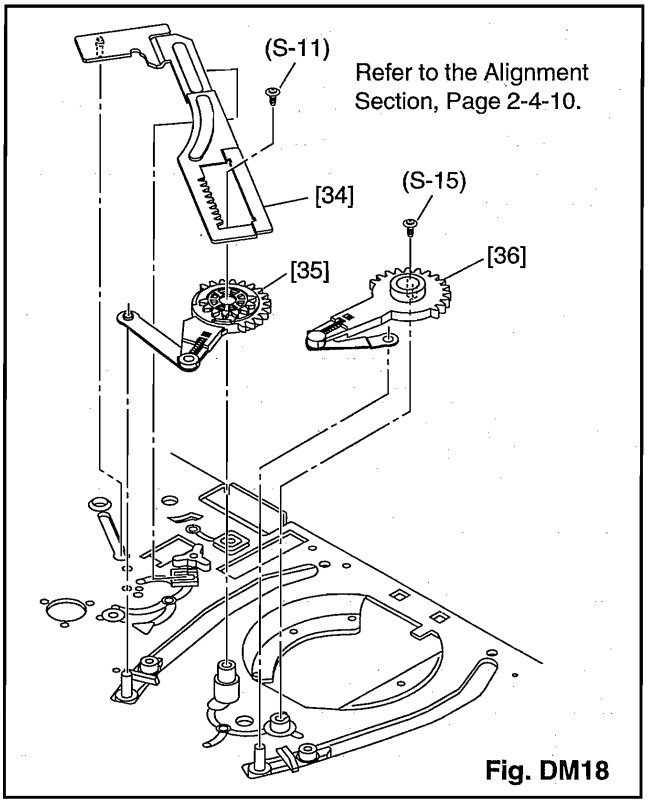


Fig. DM18

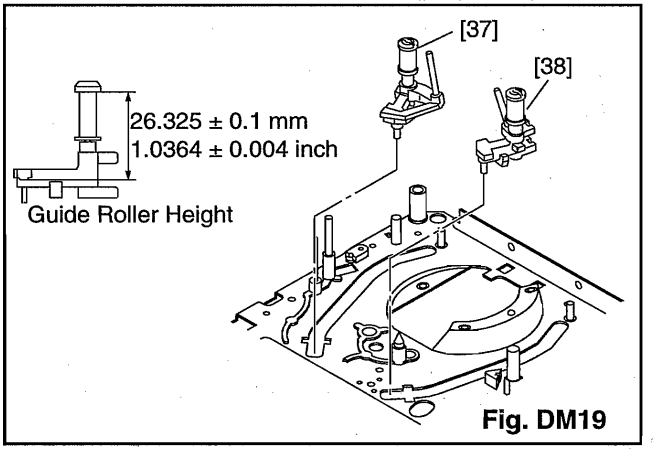


Fig. DM19

Front Loading Assembly

Before following the procedures described below, be sure to remove Front Loading Assembly from the main mechanism of the deck assembly. (See Fig. DM1.) When reassembling, start with the unit in Cassette-in mode and follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder (F)	T	DM22	2(S-1)	
[2]	[1]	Guide Holder (R)	T	DM22	(L-1)	
*[3]	[3]	Slider Gear	R	DM22 DM23	2(L-2)	Eject Position
*[4]	[3]	Slider Gear	L	DM22 DM23	2(L-3)	Eject Position
		Slider Shaft	T	DM22 DM23		Eject Position
[5]	[1]	Cassette Plate sub Assembly	T	DM20 DM21 DM22	(S-2)	
[6]	[1]	Cassette Guide R	R	DM20 DM21 DM22		
[7]	[1]	Cassette Guide L	L	DM22		
[8]	[8]	Front Door Opener	R	DM22 DM23	(L-4)	Eject Position
[9]	[9]	Rack	R	DM20 DM21 DM22	(L-5)	Cassette in Position
[10]	[9]	Cassette Drive Gear (N)	R	DM20 DM21 DM22	(L-6),Cassette Drive Gear Spring	Cassette in Position
↓ ①	↓ ②	↓ ③	↓ ④	↓ ⑤	↓ ⑥	↓ ⑦

①: Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as Identification (location) No. of parts in the figures.

②: Indicates the part to start disassembling with in order to disassemble the part in column (1).

③: Name of the part

④: Location of the part: T=Top B=Bottom R=Right L=Left

⑤: Figure Number

⑥: Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication.

*[3], *[4]: Slider Gear in Step [3] and that in Step [4] are identical. However, they are divided into two steps because, before reassembling Slider Shaft, one Slider Gear must be preinstalled at either end of Slider Shaft.

Before removing Parts [6], [9], or [10], shift [5] to Cassette-in position.

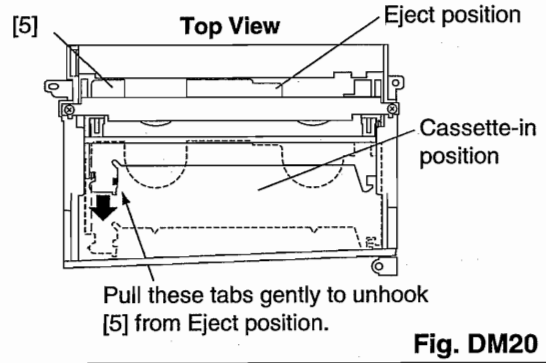


Fig. DM20

Install/remove in Cassette-in position to ensure that [5] is in locked position.

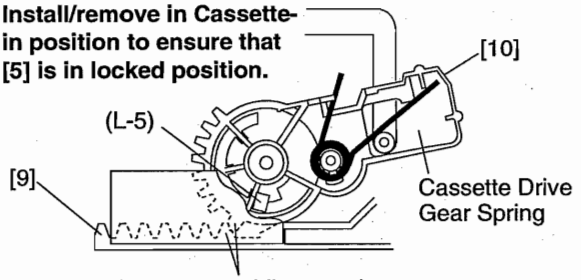
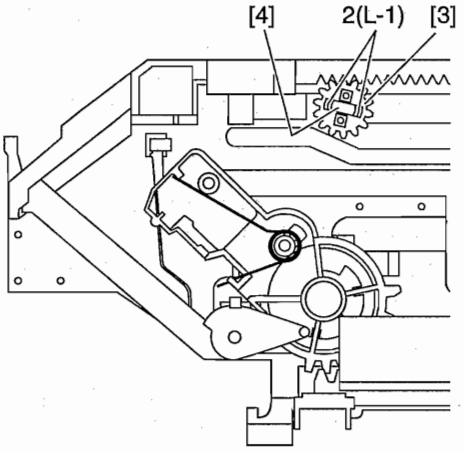


Fig. DM21

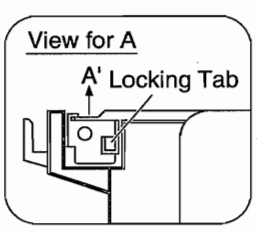
View before disassembling [3] and [4] (Installation of Slider Shaft and Slider Gear)



Install [3] and [4] in Eject position.
(When disassembling, [3] and [4] can be removed either in Eject position or Cassette-in position.)

- This figure shows where [3], [4] and other parts are in Eject position.

Fig. DM23



Guide Holder R
1. Unhook the Locking Tab.
2. Lift up the Guide Holder R in the direction of A', and remove.

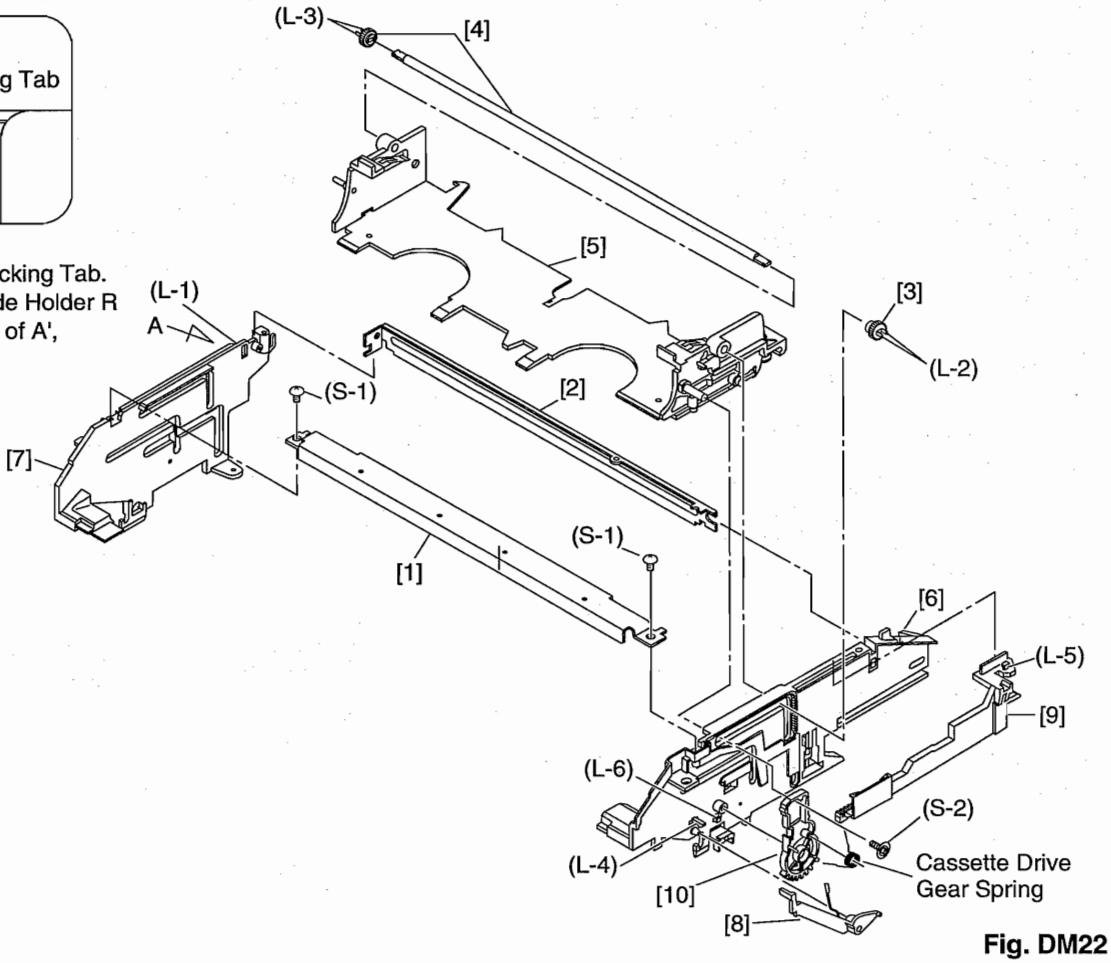


Fig. DM22

ALIGNMENT PROCEDURES OF MECHANISM

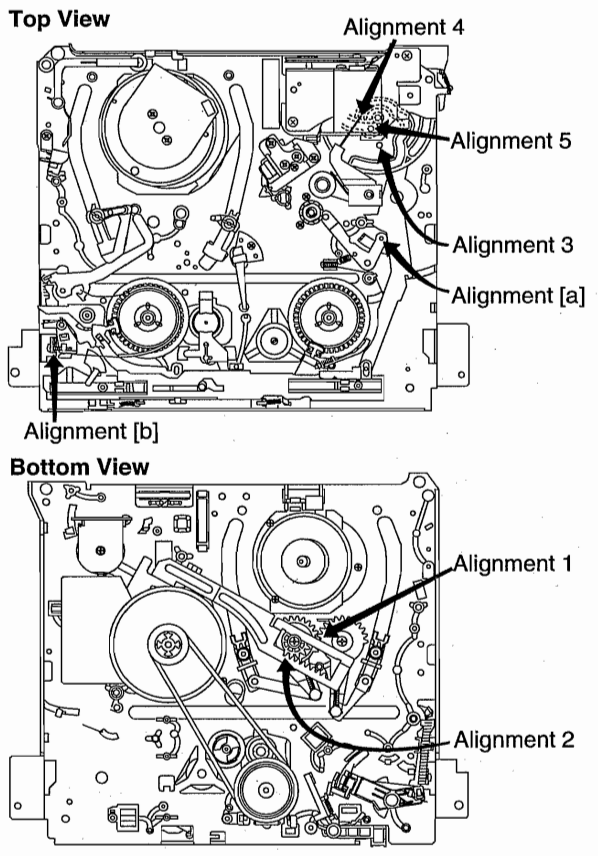
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment [a] and [b] can be done independently of any other alignment

Fig. AL1

Alignment 1

Loading Arm, S and T Assembly

1. Install Loading Arm S and T Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Loading Lever Assembly

1. Keeping the two triangles pointing at each other, install the Loading Arm T Assembly so that the last tooth of the gear meets the most inside teeth of the Loading Lever Assembly. See Fig. AL2.

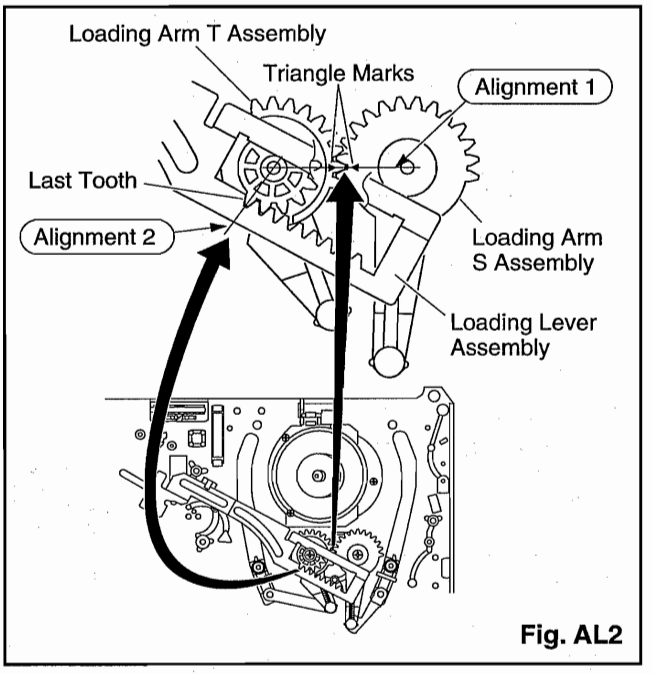


Fig. AL2

Alignment [a]

Tape Guide Arm Assembly

1. Measurement of the screw must be as specified in Fig. AL3.

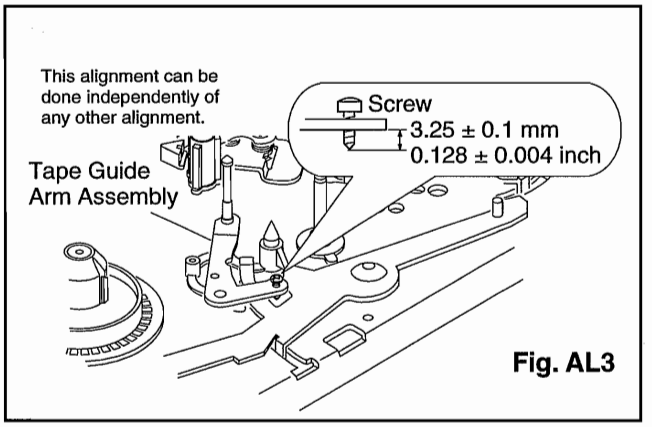


Fig. AL3

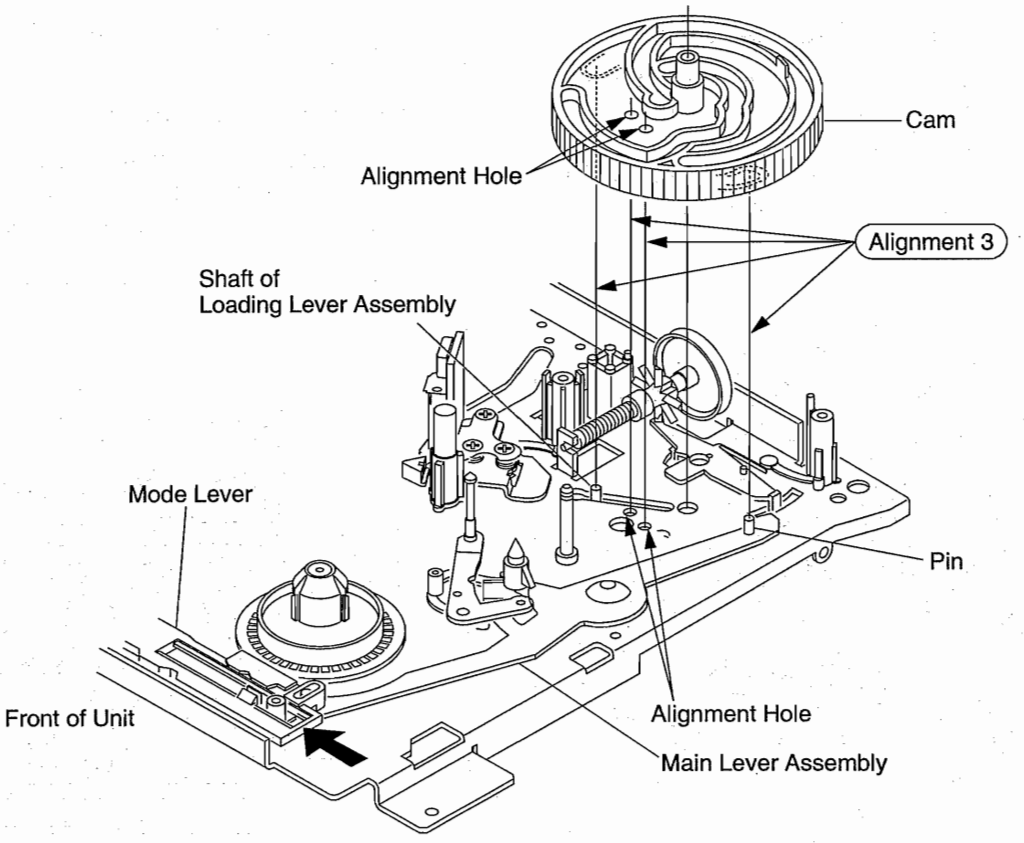


Fig. AL4

Alignment 3

Cam

1. Make sure that the mechanism is in Eject mode so that the shaft of Loading Lever Assembly is in the position shown in Fig. AL4.
2. Align the alignment hole of the Cam with the alignment hole of the base, holding the Cam just above the base.
3. Carefully keeping these two holes aligned, push Mode Lever in the direction of the arrow to install the Cam. The Mode Lever must be pushed to make the pin on the Main Lever Assembly fit in the proper groove in the lower Cam.
4. After installing the Cam, make sure that the alignment hole of the Cam is still aligned with the base hole and that the pin on the Main Lever Assembly and the shaft of the Loading Lever Assembly are inserted into the proper grooves of the lower Cam as specified in Fig. AL4.

Alignment 4

Pinch Roller Assembly

1. Ensure that the Spring of the Pinch Roller Arm Assembly is positioned in the end of the groove of the upper Cam as shown in Fig. AL5.

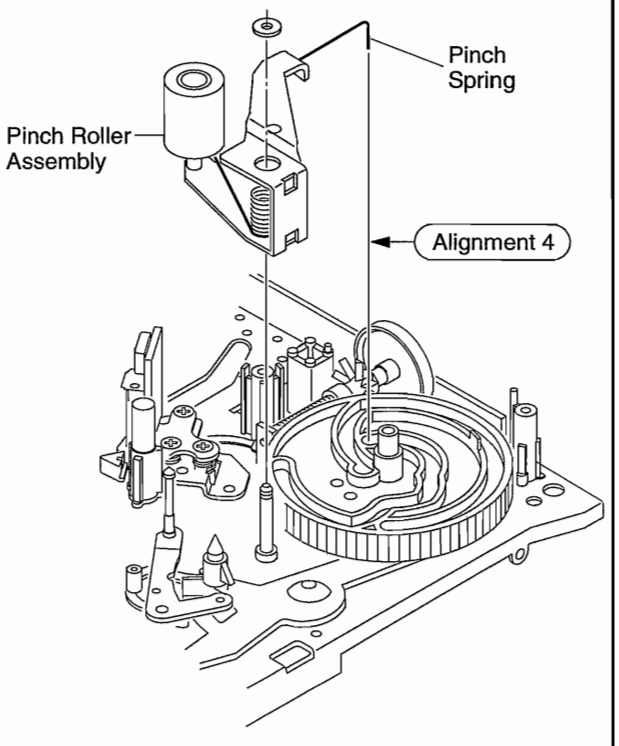


Fig. AL5

Alignment 5

Cassette Drive Lever Sub Assembly

1. Ensure that the pin of the Cassette Drive Lever Sub Assembly is positioned in the groove of the upper Cam and that the hole is positioned as shown in Fig. AL6. Then, make sure that the tab of the Cassette Drive Lever Sub Assembly is outside of the tab of the Cam.

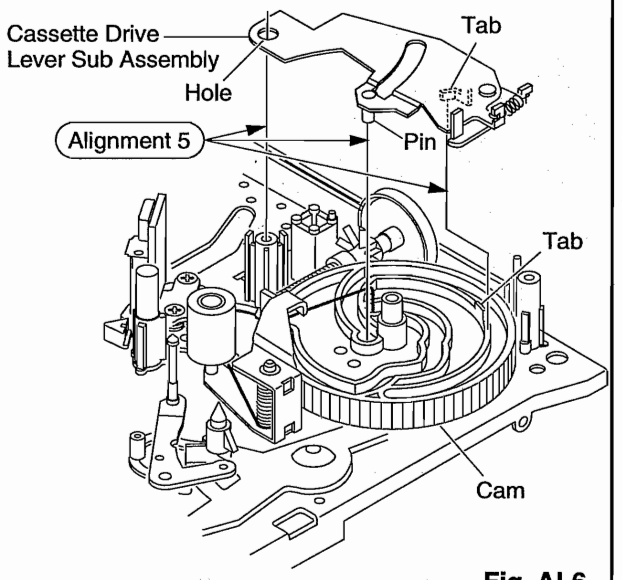


Fig. AL6

Alignment [b]

This alignment can be performed independently of any other alignment.

Tension Lever Assembly

1. Ensure that Tension Lever Assembly is positioned parallel to the chassis' notch as shown in Fig. AL7. This measurement can be made by eye.

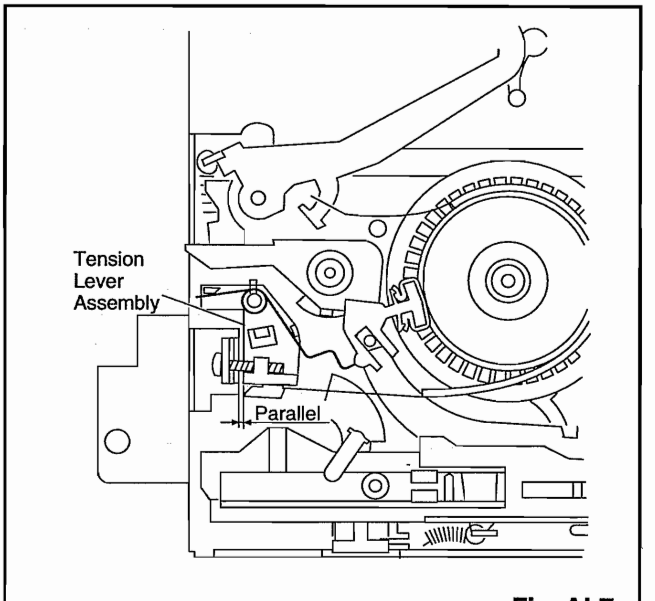


Fig. AL7

EXPLODED VIEWS AND PARTS LIST SECTION

9" COLOR TV/VCR COMBINATION

SSC099

Sec. 3: Exploded views and Parts List Section

- **Exploded views**
- **Parts List**

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Electrical Parts List 3-3-1
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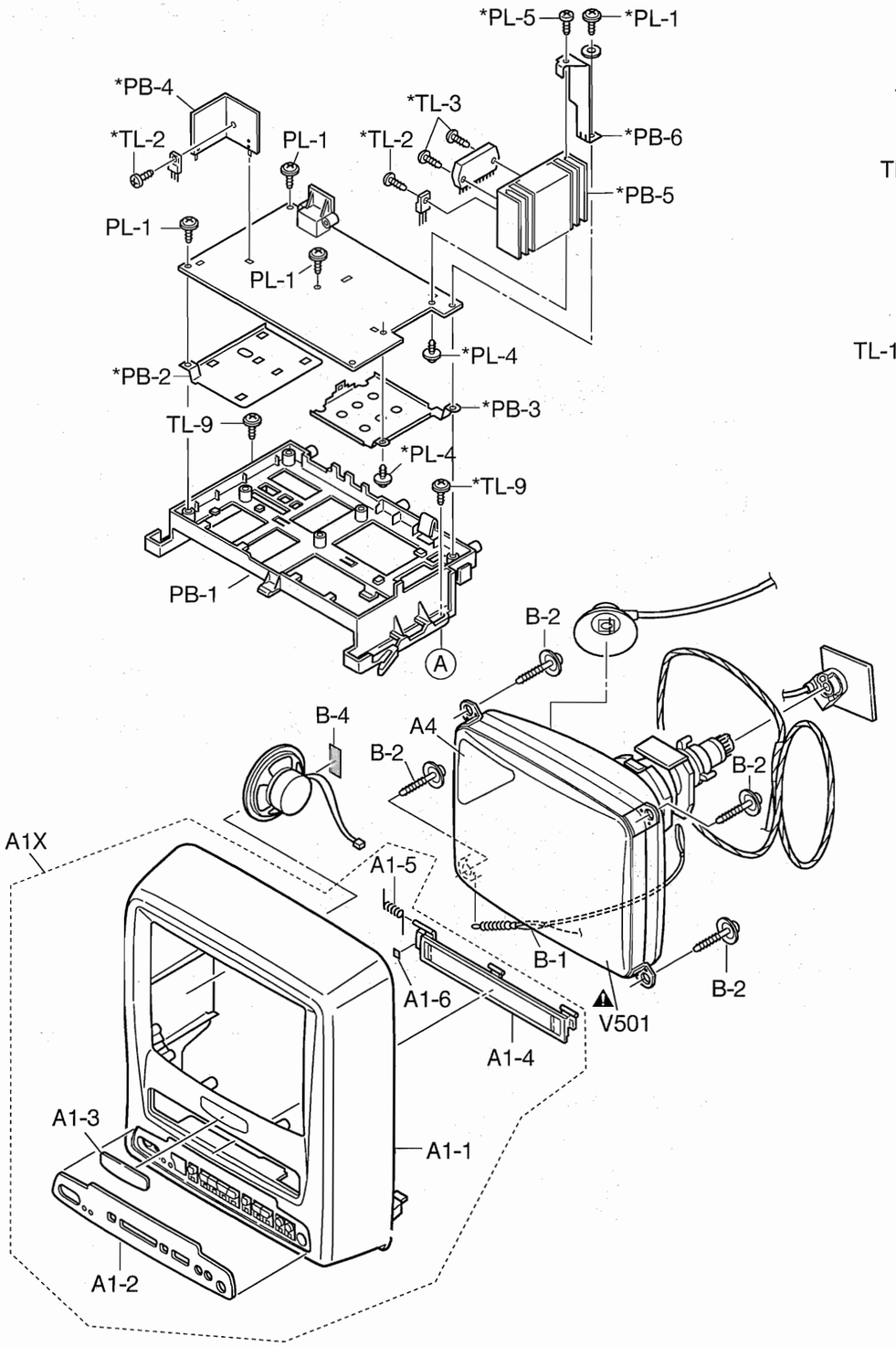
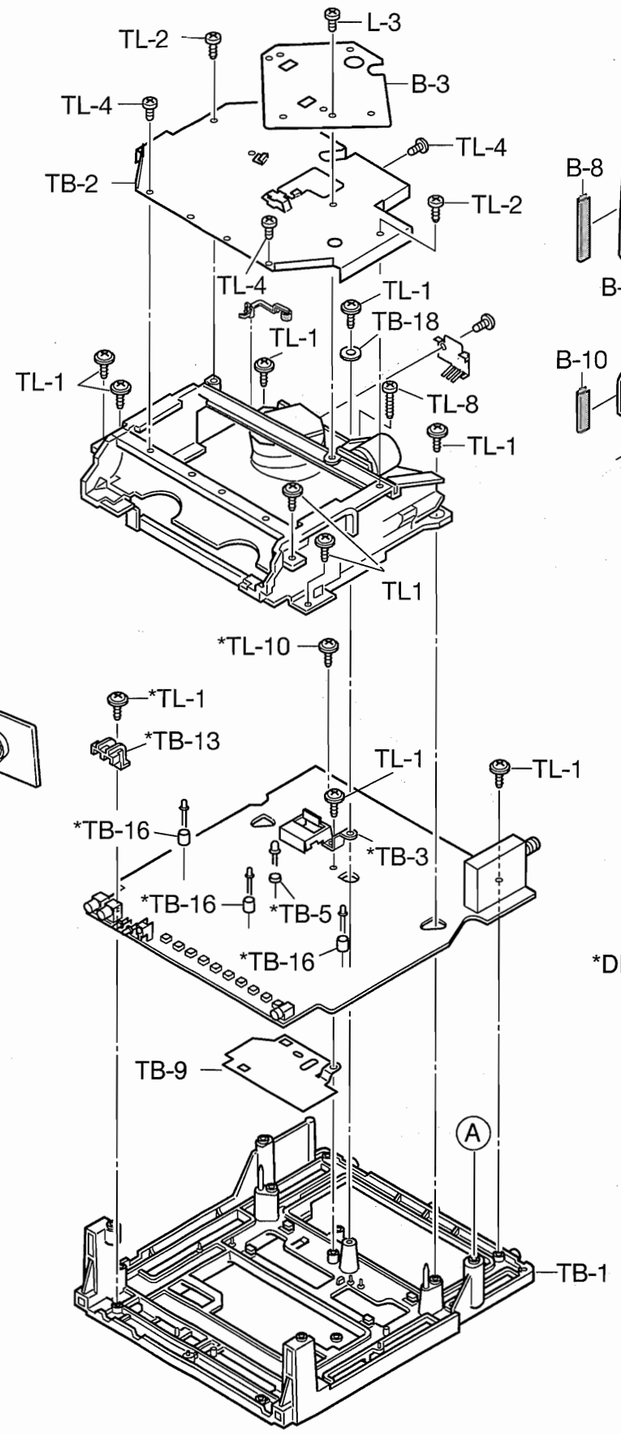
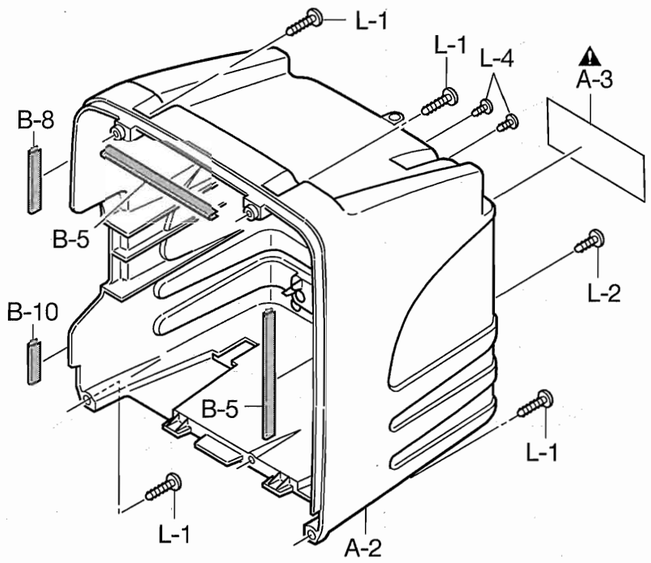
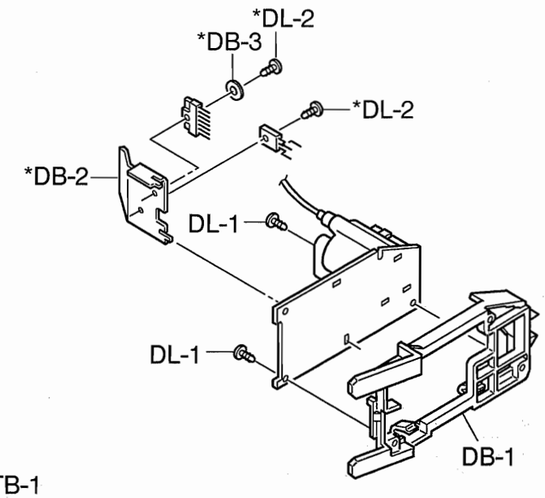
CABINET EXPLODED VIEW



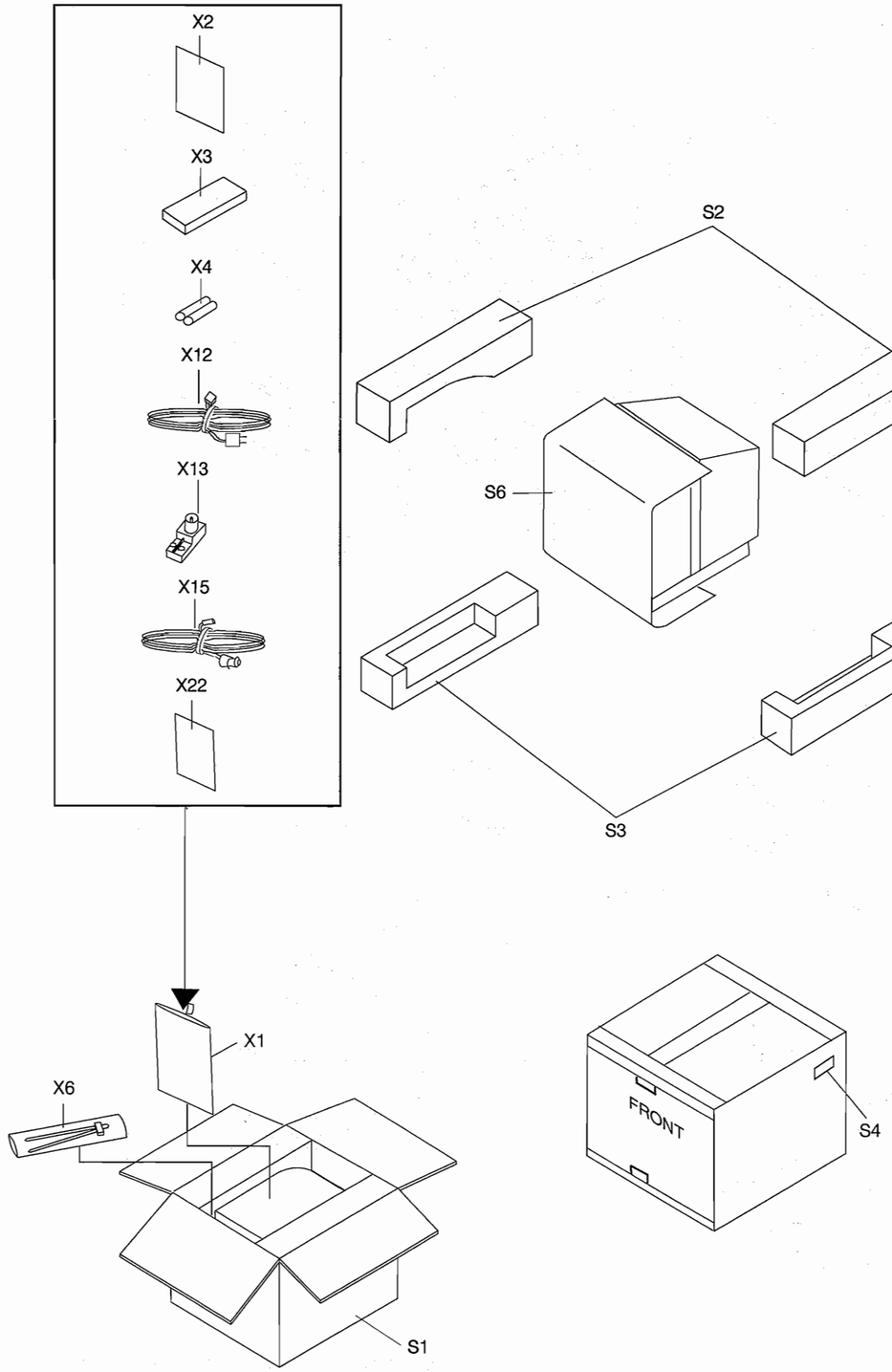






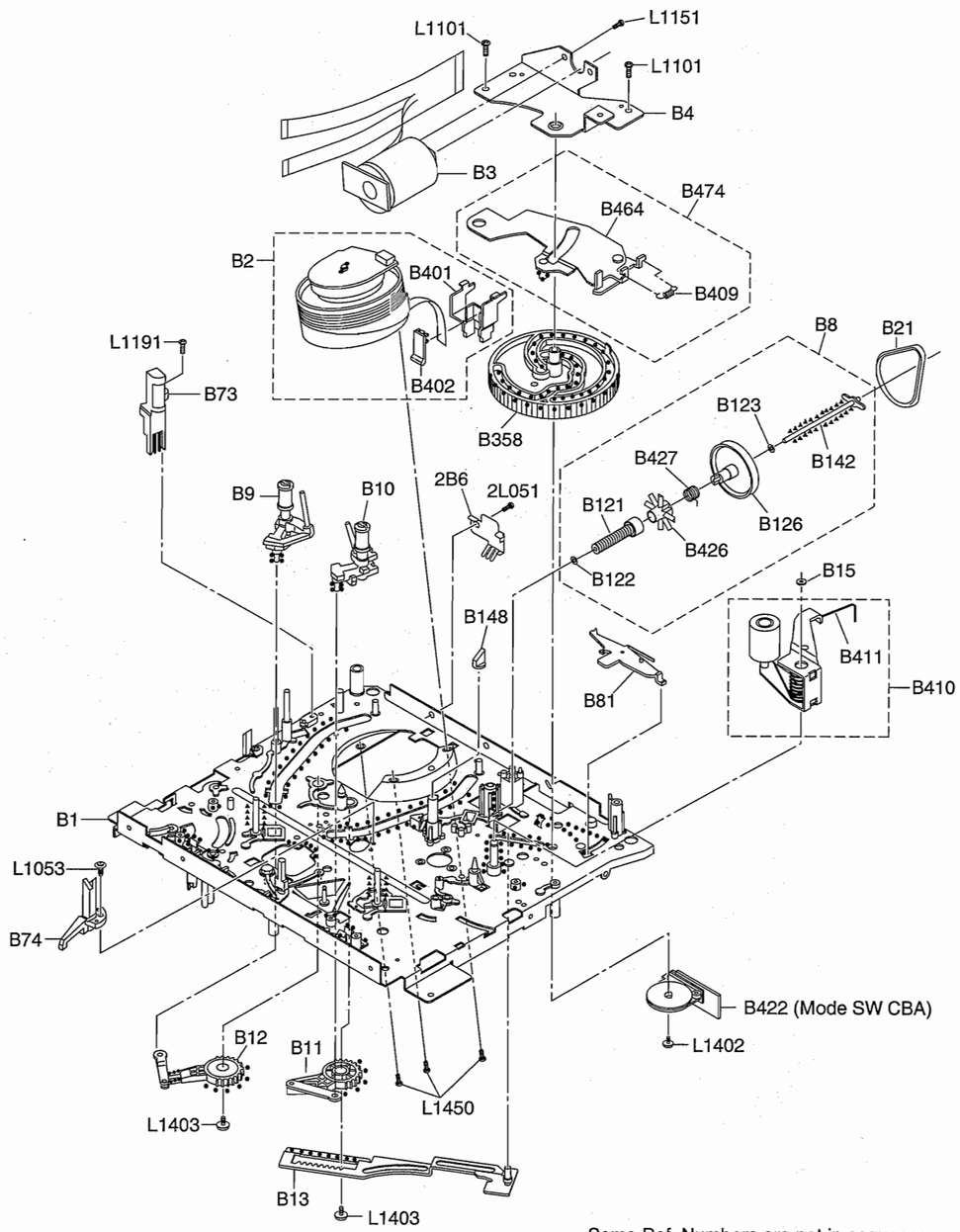
*Marked parts see the Electrical Parts List

PACKING EXPLODED VIEW



Deck Mechanism View 1

Mark	Description		Part No.
●●●●●	Floil G-374G	(Blue grease)	0VZZ00109
▲▲▲▲▲	Hydro-Fluid EP56	(Spindle oil)	0VZZ00068



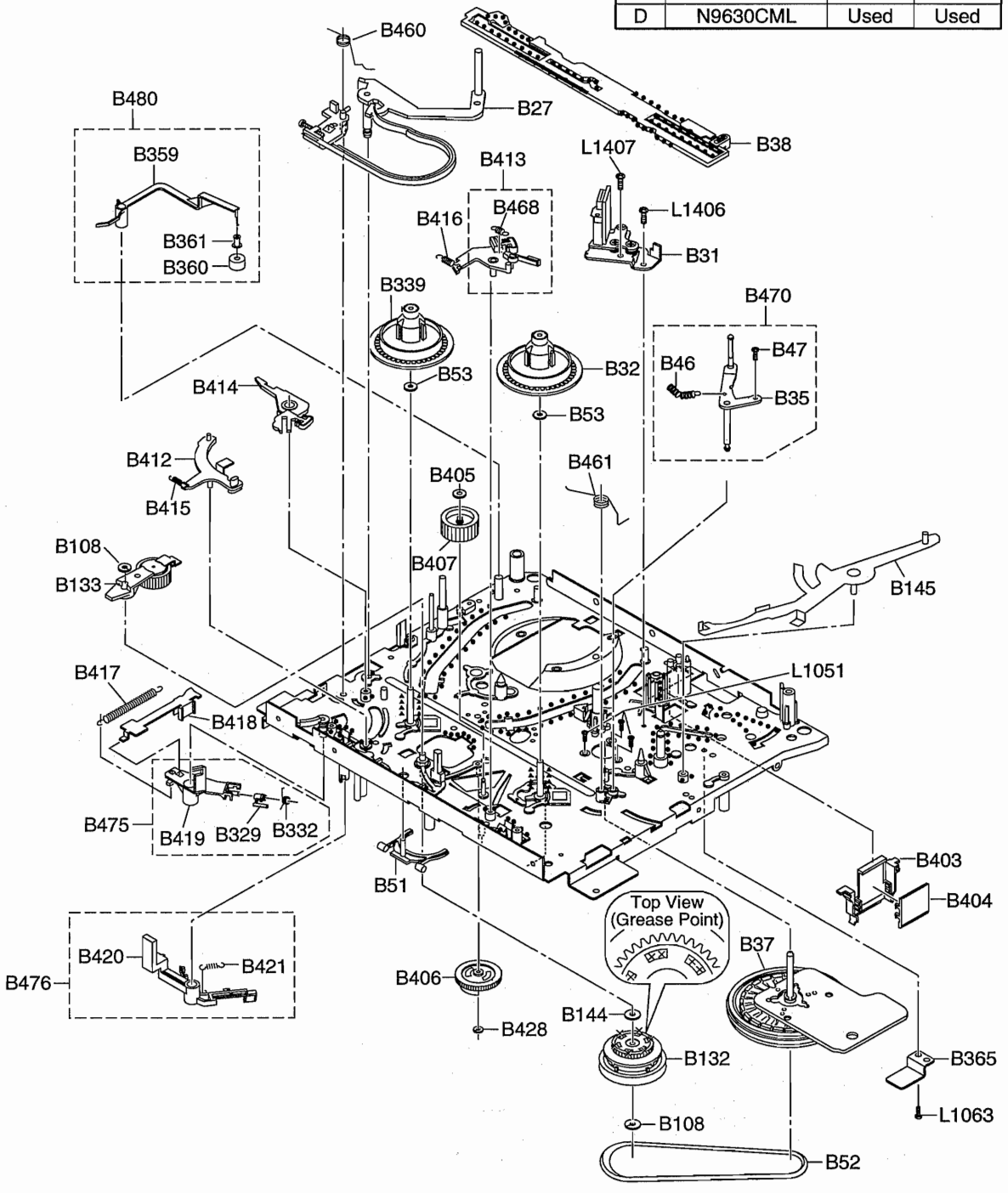
Some Ref. Numbers are not in sequence.

Deck Mechanism View 2

Mark	Description	Part No.
×××××	Sankol FG-84M (White grease)	0VZZ00062
●●●●●	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	Hydro-Fluid EP56 (Spindle oil)	0VZZ00068

Note: Four different, but interchangeable, types of Capstan Motor (B37) may be installed in these models. Based on the type of capstan motor, items B365 and L1063 will be used/not used as shown in the table below.

Type	ID No.	B365	L1063
A	MMDZB12SJ007	Not used	Not used
B	MMDZB12SJ006	Not used	Not used
C	N9620CML	Used	Used
D	N9630CML	Used	Used

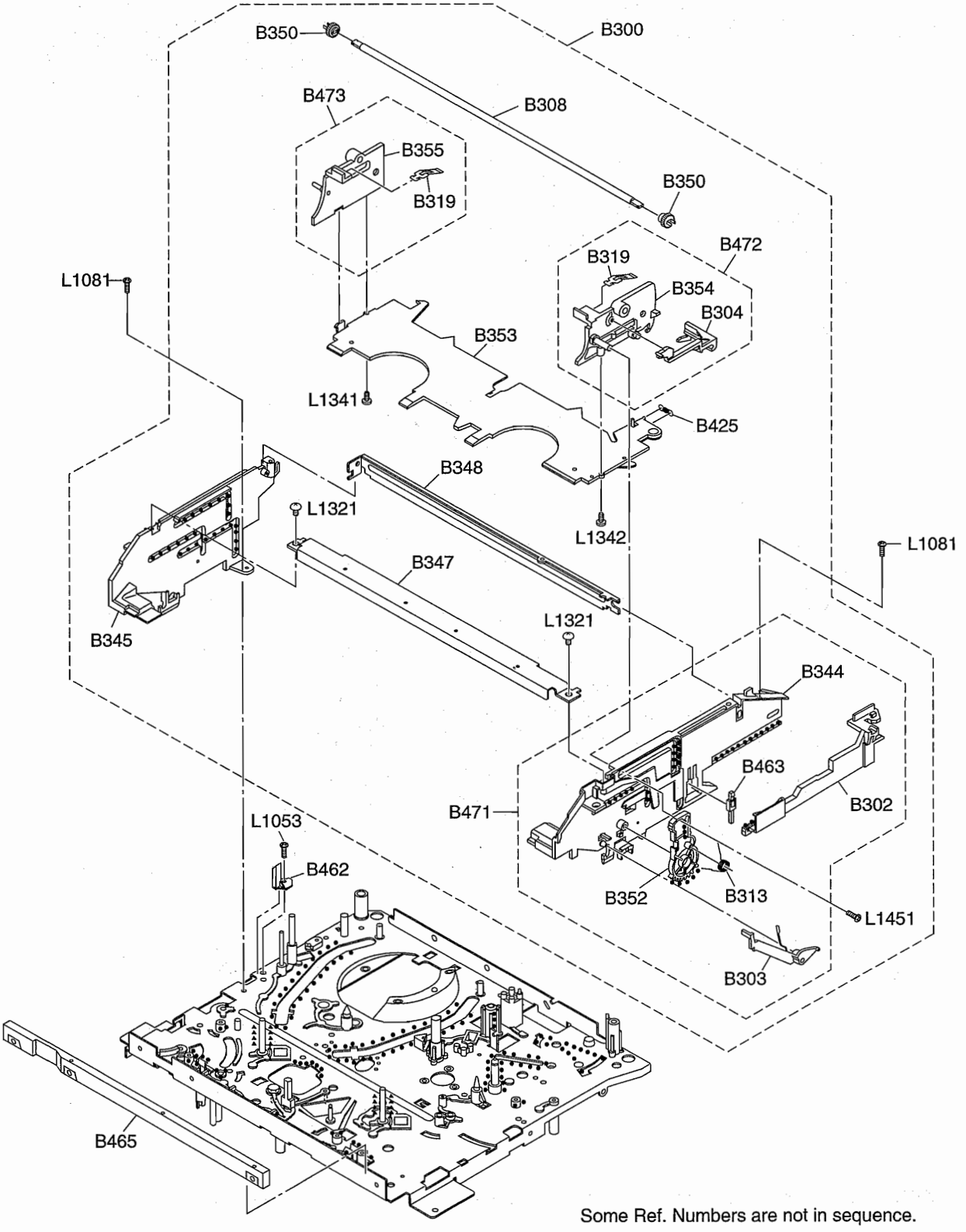


B359, B360, B361 and B480: See the Mechanical Parts List.

Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description		Part No.
●●●●●	Floil G-374G	(Blue grease)	0VZZ00109
▲▲▲▲▲	Hydro-Fluid EP56	(Spindle oil)	0VZZ00068



Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY	0EM201004
	(A-1-1~A1-6 are included)	
A1-1	FRONT CABINET	0EM000351
A1-2	CONTROL PLATE	0EM201003
A1-3	BRAND PLATE	0EM404173
A1-4	CASSETTE DOOR	0EM404252
A1-5	DOOR SPRING	0VM403773
A1-6	CLOTH(4X7XT0.7)	0EM404974
A2	REAR CABINET	0EM000352
A3 ⚠	RATING LABEL	0EM405076
A4	POP LABEL	0EM404799
B1	TENSION SPRING B0080B0:EM40808	26WH006
B2	M5 CRT SCREW(B)	0VM403923
B3	SHILDE PLATE(Z8 9V)	0EM404843
B4	CLOTH(10X30XT0.5)	0EM404486
B5	CLOTH 190X15XT0.5	TS7623
B8	CLOTH B0071V9:TS7346	24WE420
B10	CLOTH(10X30XT0.5)	0EM404486
B11	INSULATION SHEET	0EM403921
DB1 ⚠	H/V PCB HOLDER	0EM200987
L1	SCREW P-TIGHT 4X18 BIND HEAD +	GBMP4180
L2	SCREW TAPPING M4X14	DBU14140
L3	SCREW C-TIGHT M3X4 BIND HEAD+	GBMC3040
L4	SCREW P-TIGHT 3X10 BIND HEAD+	GBKP3100
PB1	POW PCB HOLDER	0EM000354
PB2	BOTTOM SHIELD(AC)	0EM404771
PB3	BOTTOM SHIELD(DC)	0EM404775
PB7	INSULATION BUSH	0EM401778
PL1	SCREW P-TIGHT 3X12 WASHER HEAD+	GCMP3120
PL2	SCREW B-TIGHT 3X10 BIND HEAD+ or	GBMB3100
	SCREW B-TIGHT 3X10 BIND HEAD+	GBMB3100
PL3	SCREW B-TIGHT 3X16 BIND+	GBMB3160
PL4	SCREW B-TIGHT 3X10 WASHER HEAD	GCMB3100
PL5	SCREW B-TIGHT 3X10 BIND HEAD+	GBMB3100
S1	CARTON	0EM405075
S2	STYROFOAM TOP ASSEMBLY	0EM404822
S3	STYROFOAM BOTTOM ASSEMBLY	0EM404823
S4	SERIAL NO. LABEL	0EM405077
S6	SET SHEET	0EM401153
TB1	TRAY CHASSIS	0EM000353
TB2	TOP SHIELD	0EM100973B
TB3	HEAD SHIELD	0EM301241
TB9	BOTTOM SHIELD	0EM301132
TB13	RCA HOLDER	0EM403474E
TB18	WASHER(D8)	0VM408931
TL1	SCREW P-TIGHT 3X12 WASHER HEAD+	GCMP3120
TL2	SCREW P-TIGHT 3X8 BIND HEAD	GBUP3080
TL4	SCREW S-TIGHT 3X4 BIND HEAD+	GBMS3040
TL8	SCREW B-TIGHT M3X25 BIND HEAD+	GBMB3250
TL9	FLAT HEAD SCREW	0EM404793
X1	POLYETHYLENE BAG	Z223380
X2 ⚠	OWNER'S MANUAL	0EMN01509
X3	REMOCON UNIT 512/ERC001/N0239UD	N0239UD
X4	DRY BATTERY R6P UM3 or	XB0M451GH001
	DRY BATTERY UM3/RS6 2PCS PACK or	579W099
	DRY BATTERY R6P(AR)2PX or	XB0M451HU002
	DRY BATTERY(SUNRISE) R6SSE/2S	XB0M451MS002

Ref. No.	Description	Part No.
X6	DIPOLE ANTENNA or	0EMN00723
	DIPOLE ANTENNA B5700UA	0EMN01183
X12 ⚠	AC CORD SET LA-2142	WPV0182LW001
X13	MATCHING ADAPTOR ICM-02N or	UCPGANTPK004
	MATCHING ADAPTOR or	1813641
	MATCHING ADAPTOR	1780258
X15	CAR PLUG CORD	WPZ0202GA004
X22	RETURN STOP SHEET	0VM408869A
	CLEANER ASSEMBLY MK7	0VSA09032
	CLEANER LEVER MK7	0VM303350
	CLEAN ROLLER MK4	0VM406123
	CLEAN BEARING MK4	0VM406124

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that not assigned part numbers (----------) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

Main (MMA) CBA

Ref. No.	Description	Part No.
	Main CBA Consists of the following	0ESA02860
	CAPACITORS	
C 001	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 002	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C 007	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 012	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C 013	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 032	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 040	CERAMIC CAP.(AX) SL J 56pF/50V	CCA1JJTSL560
C 201	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 203	CERAMIC CAP.(AX) F Z 0.047μF/16V	CDA1CZT0F473
C 205	CHIP CERAMIC CAP. B K 0.01μF/50V	CHE1JKB0B103
C 207	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 208	CERAMIC CAP.(AX) Y K 0.01μF/16V	CDA1CKT0Y103
C 209	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 211	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 213	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMASSL470
C 215	CHIP CERAMIC CAP. F Z 0.022μF/50V	CHE1JZB0F223
C 216	ELECTROLYTIC CAP. 1μF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0μF/50V M H7	CE1JMASSL1R0
C 218	CERAMIC CAP.(AX) CH J 10pF/50V	CCA1JJTCH100
C 219	CERAMIC CAP.(AX) CH J 15pF/50V	CCA1JJTCH150
C 220	CERAMIC CAP.(AX) CH J 20pF/50V	CCA1JJTCH200
C 221	CERAMIC CAP.(AX) CH J 20pF/50V	CCA1JJTCH200
C 223	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C 225	CHIP CERAMIC CAP. B K 0.01μF/50V	CHE1JKB0B103
C 229	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 231	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 240	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 241	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 242	CERAMIC CAP.(AX) X K 2200pF/16V	CDA1CKT0X222
C 243	ELECTROLYTIC CAP. 1μF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0μF/50V M H7	CE1JMASSL1R0
C 244	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 245	CHIP CERAMIC CAP. B K 560pF/50V	CHE1JKB0B561
C 250	CERAMIC CAP.(AX) Y K 0.01μF/16V	CDA1CKT0Y103
C 251	CHIP CERAMIC CAP. SL J 20pF/50V	CHE1JJBSL200
C 252	CHIP CERAMIC CAP. SL J 20pF/50V	CHE1JJBSL200
C 253	CHIP CERAMIC CAP. SL J 20pF/50V	CHE1JJBSL200
C 256	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHE1JZB0F473
C 258	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 259	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 264	CERAMIC CAP.(AX) X K 6800pF/16V	CDA1CKT0X682
C 265	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHE1JZB0F473
C 274	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 277	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 278	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZT0F104
C 279	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 280	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 281	PCB JUMPER D0.6-P5.0	JW5.0T
C 283	PCB JUMPER D0.6-P5.0	JW5.0T
C 284	PCB JUMPER D0.6-P5.0	JW5.0T
C 285	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 286	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 287	CERAMIC CAP.(AX) F Z 0.022μF/25V	CDA1EZT0F223
C 288	ELECTROLYTIC CAP. 22μF/16V M LL H7	CA1C220SP018
C 290	CERAMIC CAP.(AX) F Z 0.022μF/25V	CDA1EZT0F223
C 291	CERAMIC CAP.(AX) Y K 0.01μF/16V	CDA1CKT0Y103
C 292	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C 293	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 294	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 296	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHE1JZB0F473
C 299	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 301	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 302	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C 303	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 304	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C 305	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 306	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 307	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 308	CHIP CERAMIC CAP. SL J 330pF/50V	CHE1JJBSL331
C 309	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 310	CERAMIC CAP.(AX) Y M 0.018μF/6V	CDA0KMT0Y183
C 311	FILM CAP.(P) 0.01μF/50V J or	CMA1JJS00103
	*MYLAR CAP. 0.01μF/50V J TV or	CMB1JJS00103
	MYLAR CAP. 0.01μF/50V K	2250103S
C 321	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 322	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASSL101
C 323	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JJTSL330
C 324	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C 325	CHIP CERAMIC CAP. F Z 0.1μF/50V	CHE1JZB0F104
C 326	CHIP CERAMIC CAP. F Z 0.1μF/50V	CHE1JZB0F104
C 328	CHIP CERAMIC CAP. F Z 0.1μF/50V	CHE1JZB0F104
C 329	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 330	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 331	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 332	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 336	ELECTROLYTIC CAP. 1μF/50V M LL or	CE1JMASLL010
	ELECTROLYTIC CAP. 1μF/50V M LL	CE1JMASLL1R0
C 343	CHIP CERAMIC CAP. B K 3300pF/50V	CHE1JKB0B332
C 344	CERAMIC CAP.(AX) F Z 0.047μF/16V	CDA1CZT0F473
C 345	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 346	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 347	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C 348	CERAMIC CAP.(AX) Y M 0.015μF/6V	CDA0KMT0Y153
C 349	ELECTROLYTIC CAP. 0.22μF/50V M H7	CE1JMASSLR22
C 351	CHIP CERAMIC CAP. B K 0.022μF/50V	CHE1JKB0B223
C 354	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 355	ELECTROLYTIC CAP. 330μF/16V M	CE1CMASDL331

*Mylar is a registered trademark of E. I. Du Pont de Nemours and Company.

Ref. No.	Description	Part No.
C 356	ELECTROLYTIC CAP. 220µF/10V M	CE1AMASDL221
C 357	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 362	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 370	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C 371	ELECTROLYTIC CAP. 0.47µF/50V M	CE1JMASDLR47
C 372	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 373	ELECTROLYTIC CAP. 0.33µF/50V M	CE1JMASDLR33
C 375	ELECTROLYTIC CAP. 0.1µF/50V M	CE1JMASDL0R1
C 376	CHIP CERAMIC CAP. B K 3300pF/50V	CHE1JKB0B332
C 378	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 385	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 386	CERAMIC CAP.(AX) SL J 10pF/50V	CCA1JJTSL100
C 387	ELECTROLYTIC CAP. 0.47µF/50V M	CE1JMASDLR47
C 401	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 402	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHE1JZB0F104
C 403	CERAMIC CAP.(AX) Y M 0.012µF/6V	CDA0KMT0Y123
C 404	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C 405	ELECTROLYTIC CAP. 4.7µF/25V M H7	CE1EMASSL4R7
C 406	CHIP CERAMIC CAP. B K 2700pF/50V	CHE1JKB0B272
C 407	CHIP CERAMIC CAP. B K 1000pF/50V	CHE1JKB0B102
C 408	CHIP CERAMIC CAP. B K 1000pF/50V	CHE1JKB0B102
C 410	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 411	ELECTROLYTIC CAP. 100µF/6.3V M H7	CE0KMASSL101
C 412	CERAMIC CAP.(AX) F Z 0.022µF/25V	CDA1EZT0F223
C 413	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 414	CERAMIC CAP.(AX) B K 390pF/50V	CCA1JKT0B391
C 416	CERAMIC CAP.(AX) B K 180pF/50V	CCA1JKT0B181
C 417	CHIP CERAMIC CAP. SL J 22pF/50V	CHE1JJBSL220
C 418	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 420	PCB JUMPER D0.6-P5.0	JW5.0T
C 421	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C 422	CERAMIC CAP.(AX) F Z 0.01µF/25V	CDA1EZT0F103
C 425	ELECTROLYTIC CAP. 47µF/6.3V M H7	CE0KMASSL470
C 427	ELECTROLYTIC CAP. 0.1µF/50V M H7 or	CE1JMASSL0R1
	ELECTROLYTIC CAP. 0.1µF/50V M H7	CE1JMASSLR10
C 429	ELECTROLYTIC CAP. 22µF/6.3V M H7	CE0KMASSL220
C 430	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C 431	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 432	CERAMIC CAP.(AX) F Z 0.01µF/25V	CDA1EZT0F103
C 434	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 435	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 436	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 437	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 438	ELECTROLYTIC CAP. 22µF/6.3V M	CE0KMASDL220
C 440	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 441	CHIP CERAMIC CAP. B K 820pF/50V	CHE1JKB0B821
C 443	CERAMIC CAP.(AX) F Z 0.01µF/25V	CDA1EZT0F103
C 444	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 445	ELECTROLYTIC CAP. 47µF/6.3V M	CE0KMASDL470
C 446	CERAMIC CAP.(AX) F Z 0.033µF/16V	CDA1CZT0F333
C 447	CERAMIC CAP.(AX) F Z 0.022µF/25V	CDA1EZT0F223
C 448	ELECTROLYTIC CAP. 100µF/6.3V M H7	CE0KMASSL101
C 450	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 451	ELECTROLYTIC CAP. 2.2µF/50V M H7	CE1JMASSL2R2
C 452	CHIP CERAMIC CAP. B K 3900pF/50V	CHE1JKB0B392
C 453	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0

Ref. No.	Description	Part No.
C 454	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 455	ELECTROLYTIC CAP. 0.47µF/50V M H7	CE1JMASSLR47
C 456	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C 460	CERAMIC CAP.(AX) F Z 0.047µF/16V	CDA1CZT0F473
C 461	CERAMIC CAP.(AX) F Z 0.047µF/16V	CDA1CZT0F473
C 463	CERAMIC CAP.(AX) F Z 0.01µF/25V	CDA1EZT0F103
C 464	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHE1JZB0F104
C 465	ELECTROLYTIC CAP. 22µF/6.3V M H7	CE0KMASSL220
C 467	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZT0F104
C 468	ELECTROLYTIC CAP. 33µF/6.3V M H7	CE0KMASSL330
C 471	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHE1JZB0F103
C 476	ELECTROLYTIC CAP. 4.7µF/25V M H7	CE1EMASSL4R7
C 477	ELECTROLYTIC CAP. 47µF/6.3V M H7	CE0KMASSL470
C 478	CHIP CERAMIC CAP. F Z 0.022µF/50V	CHE1JZB0F223
C 480	ELECTROLYTIC CAP. 47µF/6.3V M H7	CE0KMASSL470
C 481	ELECTROLYTIC CAP. 220µF/6.3V M H7	CE0KMASSL221
C 483	CERAMIC CAP. B K 470pF/100V or	CCD2AKS0B471
	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C 484	FILM CAP.(P) 0.018µF/50V J or	CMA1JJS00183
	FILM CAP.(P) 0.018µF/100V J or	CMA2AJS00183
	FILM CAP.(P) 0.018µF/100V J TV or	CMB2AJS00183
	MYLAR CAP. 0.018µF/100V K	1251183S
C 490	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C 495	ELECTROLYTIC CAP. 1µF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1.0µF/50V M H7	CE1JMASSL1R0
C 496	CERAMIC CAP.(AX) Y K 0.01µF/16V	CDA1CKT0Y103
C 498	ELECTROLYTIC CAP. 22µF/6.3V M H7	CE0KMASSL220
C 499	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZT0F104
C 621 ⚠	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C 630	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C 632	ELECTROLYTIC CAP. 220µF/6.3V M	CE0KMASDL221
C 633	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C 636	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C 637	ELECTROLYTIC CAP. 47µF/16V M H7	CE1CMASSL470
C 801	SEMICONDUCTOR CAP. YR K 0.033µF/25V	CDA1EKU0X333
C 802	ELECTROLYTIC CAP. 0.47µF/50V M H7	CE1JMASSLR47
C 803	ELECTROLYTIC CAP. 47µF/10V M H7	CE1AMASSL470
C 805	ELECTROLYTIC CAP. 330µF/16V M	CE1CMASDL331
C 806	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C 807	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C 808	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZT0F104
C 809	CERAMIC CAP.(AX) F Z 0.01µF/25V	CDA1EZT0F103
C 810	PCB JUMPER D0.6-P5.0	JW5.0T
	CONNECTORS	
CN 202	CONNECTOR 8P TMC-J08P-A1	J3TMA08TG002
CN 301	CONNECTOR BASE 5P TUC-P05P-B1	J3TUA05TG001
CN 303	CONNECTOR BASE 7P TUC-P07P-B1	J3TUA07TG001
CN 304	CONNECTOR BASE 5P TUC-P05P-B1	J3TUA05TG001
CN 471	FFC CONNECTOR BASE TOP 4P 9604S-04C	JC04J04ER002
CN 603	CONNECTOR BASE 15P TUC-P15P-B1	J3TUA15TG001
CN 802	STRAIGHT CONNECTOR BASE or	J383C02UG002
	STRAIGHT PIN HEADER 2P 173981-2	1770258
CN 851	FFC CONNECTOR BASE TOP 17P 9604S-17C	JC04J17ER002
CN 852	CABLE CONNECTOR 2P TMC-E02X-A1	JCTMC02TG001
CN 991	STRAIGHT PIN HEADER 2P IL-S- 2P-S2T2-EF	1740764
	DIODES	
D 201	PCB JUMPER D0.6-P5.0	JW5.0T
D 206	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 209	LED SIR-56ST3F-M or	QPQM0S1R56ST
	LED SIR-56ST3F-N or	QPQN0S1R56ST
	LED SLR-932AV-7K-AB	QPQ8SLR932AV
D 211	LED LTL-4214M1 or	NPQZLTL4214M
	LED(RED)L-FORMING LT1814G-81-FL or	NP4Z0LT1814G
	LED L-53HT	NP4Z000L53HT
D 216	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 217	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6

Ref. No.	Description	Part No.
D 220	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 221	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 222	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 227	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 250	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 293	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 297	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 298	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 299	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 302	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D 303	ZENER DIODE MTZJT-778.2B	QDTB0MTZJ8R2
D 304	ZENER DIODE MTZJT-778.2B	QDTB0MTZJ8R2
D 305	ZENER DIODE MTZJT-778.2B	QDTB0MTZJ8R2
D 307	ZENER DIODE MTZJT-778.2B	QDTB0MTZJ8R2
D 308	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 311	PCB JUMPER D0.6-P5.0	JW5.0T
D 321	PCB JUMPER D0.6-P5.0	JW5.0T
D 322	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 323	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 324	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 371	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 399	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 620	PCB JUMPER D0.6-P5.0	JW5.0T
D 630	ZENER DIODE MTZJT-776.8A	QDTA0MTZJ6R8
D 636 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 637 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 638	ZENER DIODE MTZJT-775.6A	QDTA0MTZJ5R6
D 640 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 641	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 645 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 646 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 648 ⚠	ZENER DIODE MTZJT-776.2A	QDTA0MTZJ6R2

Ref. No.	Description	Part No.
D 650 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 652 ⚠	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D 680	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 701	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 702	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 703	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 801 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
	ICS	
IC 201 ⚠	MICROCOMPUTER 16BIT M37760MCA8B0GP	QSMQD0RMB234
IC 202	IC:MEMORY AT24C01A-10SC or	NSMMA0SAZ011
	IC(EEPROM) M24C01-MN6	NSMMA0SSS027
IC 203	IC:RESET BMR-0101C	QSBLA0TKK001
IC 204 ⚠	IC BA6955N	QSBLA0SRM024
IC 207	IC:OP-AMP. LM324N	NSBLA0SSS007
IC 301 ⚠	IC:CHROMA/IF 1 CHIP M52772FP	QSBLA0RMB024
IC 401	IC:Y/C/A LA71070M or	QSBLA0RSY077
	IC:Y/C/A LA71073M or	QSBLA0RSY080
	IC:Y/C/A LA71075M or	QSBLA0RSY083
	IC:Y/C/A LA71077M	QSBLA0RSY084
IC 602 ⚠	IC:VOLTAGE REGULATOR 5V KIA7805PI or	NSBLA0ZJY020
	IC:VOLTAGE REGULATOR AN7805F	AN7805F
IC 801 ⚠	IC TDA7231A	NSBLA0SSS001
	COILS	
L 001	INDUCTOR 100µH-J-5FT or	LLARJCSTU101
	INDUCTOR 100µH-K-5FT	LLARKDSKA101
L 002	PCB JUMPER D0.6-P5.0	JW5.0T
L 040	INDUCTOR 18µH-J-26T or	LLAXJATTU180
	INDUCTOR 18µH-K-26T	LLAXKDTKA180
L 201	PCB JUMPER D0.6-P5.0	JW5.0T
L 246	INDUCTOR 0.1µH-M-26T	LLAXMDTKAR10
L 303	INDUCTOR 100µH-J-5FT or	LLARJCSTU101
	INDUCTOR 100µH-K-5FT	LLARKDSKA101
L 321	PCB JUMPER D0.6-P5.0	JW5.0T
L 361	INDUCTOR 12µH-J-26T or	LLAXJATTU120
	INDUCTOR 12µH-K-26T	LLAXKDTKA120
L 362	INDUCTOR 18µH-J-26T or	LLAXJATTU180
	INDUCTOR 18µH-K-26T	LLAXKDTKA180
L 391	INDUCTOR 2.2µH-J-26T or	LLAXJATTU2R2
	INDUCTOR 2.2µH-K-26T	LLAXKDTKA2R2
L 422	INDUCTOR 100µH-J-26T or	LLAXJATTU101
	INDUCTOR 100µH-K-26T	LLAXKDTKA101
L 442	INDUCTOR 22µH-J-26T or	LLAXJATTU220
	INDUCTOR 22µH-K-26T	LLAXKDTKA220
L 470	INDUCTOR 22µH-J-26T or	LLAXJATTU220
	INDUCTOR 22µH-K-26T	LLAXKDTKA220
L 481	INDUCTOR 47µH-K-5FT or	LLARKBSTU470
	INDUCTOR 47µH-K-5FT	LLARKDSKA470
L 482	PCB JUMPER D0.6-P5.0	JW5.0T
L 602	CHOKE COIL 47µH-K	LLBD00PKV005
L 849	INDUCTOR 0.47µH-J-26T or	LLAXJATTUR47
	INDUCTOR 0.47µH-K-26T	LLAXKDTKAR47
	TRANSISTORS	
Q 201	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198

Ref. No.	Description	Part No.
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 202	PHOTO TRANSISTOR ST-319R2-B or	QP4B0ST319R2
	PHOTO TRANSISTOR PT380FB	QP4B00PT380F
Q 203	PHOTO TRANSISTOR ST-319R2-B or	QP4B0ST319R2
	PHOTO TRANSISTOR PT380FB	QP4B00PT380F
Q 204	PHOTO TRANSISTOR ST-319R2-B or	QP4B0ST319R2
	PHOTO TRANSISTOR PT380FB	QP4B00PT380F
Q 210	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 309	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 310	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q 311	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE or	QQSD02SC3468
	TRANSISTOR 2SC2271(D)-AEMP or	2SC2271DZ
	TRANSISTOR 2SC2271(E)-AE	QQSE02SC2271
Q 312	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 313	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 314	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 315	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 410	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 422	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q 431	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q 441	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE

Ref. No.	Description	Part No.
Q 481	TRANSISTOR 2SA1317(U) or	QQSU02SA1317
	TRANSISTOR 2SA1317(T)	QQST02SA1317
Q 482	TRANSISTOR 2SC2120-O(TPE2) or	QQS002SC2120
	TRANSISTOR 2SC2120(Y)	QQSY02SC2120
Q 483	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 484	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 485	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR 2SA1346	2SA1346Z
Q 615 ⚠	TRANSISTOR 2SC2120-O(TPE2) or	QQS002SC2120
	TRANSISTOR 2SC2120(Y)	QQSY02SC2120
Q 617 ⚠	TRANSISTOR 2SD400(F)	QQUF002SD400
Q 618 ⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 619 ⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 701	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 703	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q 801	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 991	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
	RESISTORS	
J 144	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 001	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 002	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 003	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 011	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 012	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 030	CHIP RES. 1/8W J 220 Ω or	RRX8JB6Z0221
	CHIP RES. 1/10W J 220 Ω	RRXAJB6Z0221
R 031	PCB JUMPER D0.6-P5.0	JW5.0T
R 100	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 101	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 102	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 103	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272

Ref. No.	Description	Part No.
R 104	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 105	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 106	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 107	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R 108	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R 109	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 110	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 201	CHIP RES. 1/8W J 22k Ω or	RRX8JB6Z0223
	CHIP RES. 1/10W J 22k Ω	RRXAJB6Z0223
R 202	CHIP RES. 1/8W J 22k Ω or	RRX8JB6Z0223
	CHIP RES. 1/10W J 22k Ω	RRXAJB6Z0223
R 203	CHIP RES. 1/8W J 560 Ω or	RRX8JB6Z0561
	CHIP RES. 1/10W J 560 Ω	RRXAJB6Z0561
R 205	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 206	CHIP RES. 1/8W J 1M Ω or	RRX8JB6Z0105
	CHIP RES. 1/10W J 1M Ω	RRXAJB6Z0105
R 207	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 208	PCB JUMPER D0.6-P5.0	JW5.0T
R 209	CHIP RES. 1/8W J 680k Ω or	RRX8JB6Z0564
	CHIP RES. 1/10W J 680k Ω	RRXAJB6Z0564
R 215	PCB JUMPER D0.6-P5.0	JW5.0T
R 218	CHIP RES. 1/8W J 560 Ω or	RRX8JB6Z0561
	CHIP RES. 1/10W J 560 Ω	RRXAJB6Z0561
R 219	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 220	CHIP RES. 1/8W J 8.2k Ω or	RRX8JB6Z0822
	CHIP RES. 1/10W J 8.2k Ω	RRXAJB6Z0822
R 221	CHIP RES. 1/8W J 8.2k Ω or	RRX8JB6Z0822
	CHIP RES. 1/10W J 8.2k Ω	RRXAJB6Z0822
R 222	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 223	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 224	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R 225	PCB JUMPER D0.6-P5.0	JW5.0T
R 226	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 227	CHIP RES. 1/8W J 47 Ω or	RRX8JB6Z0470
	CHIP RES. 1/10W J 47 Ω	RRXAJB6Z0470
R 228	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 229	CHIP RES. 1/8W J 1.2k Ω or	RRX8JB6Z0122
	CHIP RES. 1/10W J 1.2k Ω	RRXAJB6Z0122
R 231	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 233	CHIP RES. 1/8W J 10M Ω or	RRX8JB6Z0106
	CHIP RES. 1/10W J 10M Ω	RRXAJB6Z0106
R 234	CHIP RES. 1/8W J 470k Ω or	RRX8JB6Z0474
	CHIP RES. 1/10W J 470k Ω	RRXAJB6Z0474
R 239	CHIP RES. 1/8W J 4.7k Ω or	RRX8JB6Z0472
	CHIP RES. 1/10W J 4.7k Ω	RRXAJB6Z0472
R 242	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 243	CHIP RES. 1/8W J 470 Ω or	RRX8JB6Z0471
	CHIP RES. 1/10W J 470 Ω	RRXAJB6Z0471
R 244	CHIP RES. 1/8W J 1M Ω or	RRX8JB6Z0105

Ref. No.	Description	Part No.
	CHIP RES. 1/10W J 1M Ω	RRXAJB6Z0105
R 245	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 246	PCB JUMPER D0.6-P5.0	JW5.0T
R 249	CARBON RES. 1/4W J 68k Ω or	RCX4JATZ0683
	CARBON RES. 1/6W J 68k Ω	RCX6JATZ0683
R 250	CHIP RES. 1/8W J 270 Ω or	RRX8JB6Z0271
	CHIP RES. 1/10W J 270 Ω	RRXAJB6Z0271
R 251	CHIP RES. 1/8W J 270 Ω or	RRX8JB6Z0271
	CHIP RES. 1/10W J 270 Ω	RRXAJB6Z0271
R 252	CARBON RES. 1/4W J 1.2k Ω or	RCX4JATZ0122
	CARBON RES. 1/6W J 1.2k Ω	RCX6JATZ0122
R 253	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 254	CHIP RES. 1/8W J 4.7k Ω or	RRX8JB6Z0472
	CHIP RES. 1/10W J 4.7k Ω	RRXAJB6Z0472
R 255	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R 256	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R 257	CHIP RES. 1/8W J 560 Ω or	RRX8JB6Z0561
	CHIP RES. 1/10W J 560 Ω	RRXAJB6Z0561
R 258	CHIP RES. 1/8W J 560 Ω or	RRX8JB6Z0561
	CHIP RES. 1/10W J 560 Ω	RRXAJB6Z0561
R 259	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 260	PCB JUMPER D0.6-P5.0	JW5.0T
R 264	PCB JUMPER D0.6-P5.0	JW5.0T
R 265 ⚠	FIXED METAL OXIDE FILM RES. 1W J 2.7 Ω or	RN012R7DP003
	METAL RESISTOR 1W J 2.7 Ω or	RN012R7ZU001
	FIXED METAL OXIDE FILM RES. 1W J 2.7 Ω or	RN012R7KE009
	METAL RESISTOR 1W J 2.7 Ω	RN012R7UB001
R 269	CARBON RES. 1/4W J 39 Ω or	RCX4JATZ0390
	CARBON RES. 1/6W J 39 Ω	RCX6JATZ0390
R 270	CARBON RES. 1/4W J 39 Ω or	RCX4JATZ0390
	CARBON RES. 1/6W J 39 Ω	RCX6JATZ0390
R 271	PCB JUMPER D0.6-P5.0	JW5.0T
R 273	CARBON RES. 1/4W J 560k Ω or	RCX4JATZ0564
	CARBON RES. 1/6W J 560k Ω	RCX6JATZ0564
R 274	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 275	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 276	PCB JUMPER D0.6-P5.0	JW5.0T
R 277	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 278	CHIP RES. 1/8W J 47k Ω or	RRX8JB6Z0473
	CHIP RES. 1/10W J 47k Ω	RRXAJB6Z0473
R 280	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 281	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 282	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 283	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 284	CHIP RES. 1/8W J 39k Ω or	RRX8JB6Z0393
	CHIP RES. 1/10W J 39k Ω	RRXAJB6Z0393
R 285	CHIP RES. 1/8W J 220k Ω or	RRX8JB6Z0224
	CHIP RES. 1/10W J 220k Ω	RRXAJB6Z0224
R 286	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 287	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 288	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103

Ref. No.	Description	Part No.
R 289	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 291	CARBON RES. 1/4W J 680 Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680 Ω	RCX6JATZ0681
R 292	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R 293	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 296	CHIP RES. 1/8W J 4.7k Ω or	RRX8JB6Z0472
	CHIP RES. 1/10W J 4.7k Ω	RRXAJB6Z0472
R 301	CHIP RES. 1/8W J 56k Ω or	RRX8JB6Z0563
	CHIP RES. 1/10W J 56k Ω	RRXAJB6Z0563
R 302	CARBON RES. 1/4W J 390k Ω or	RCX4JATZ0394
	CARBON RES. 1/6W J 390k Ω	RCX6JATZ0394
R 303	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 304	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 305	CHIP RES. 1/8W J 220 Ω or	RRX8JB6Z0221
	CHIP RES. 1/10W J 220 Ω	RRXAJB6Z0221
R 306	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 307	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 309	CHIP RES. 1/8W J 2.7k Ω or	RRX8JB6Z0272
	CHIP RES. 1/10W J 2.7k Ω	RRXAJB6Z0272
R 310	CHIP RES. 1/8W J 1.5k Ω or	RRX8JB6Z0152
	CHIP RES. 1/10W J 1.5k Ω	RRXAJB6Z0152
R 311	CARBON RES. 1/4W J 390k Ω or	RCX4JATZ0394
	CARBON RES. 1/6W J 390k Ω	RCX6JATZ0394
R 314	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 316	PCB JUMPER D0.6-P5.0	JW5.0T
R 317	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R 320	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 321	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 323	CARBON RES. 1/4W J 120k Ω or	RCX4JATZ0124
	CARBON RES. 1/6W J 120k Ω	RCX6JATZ0124
R 324	CHIP RES. 1/8W J 18k Ω or	RRX8JB6Z0183
	CHIP RES. 1/10W J 18k Ω	RRXAJB6Z0183
R 325	CARBON RES. 1/4W J 120k Ω or	RCX4JATZ0124
	CARBON RES. 1/6W J 120k Ω	RCX6JATZ0124
R 326	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 327	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 328	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 329	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 330	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 331	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 332	CHIP RES. 1/8W J 22k Ω or	RRX8JB6Z0223
	CHIP RES. 1/10W J 22k Ω	RRXAJB6Z0223
R 333	CHIP RES. 1/8W J 4.7k Ω or	RRX8JB6Z0472
	CHIP RES. 1/10W J 4.7k Ω	RRXAJB6Z0472
R 334	PCB JUMPER D0.6-P5.0	JW5.0T
R 335	CARBON RES. 1/4W J 22 Ω or	RCX4JATZ0220
	CARBON RES. 1/6W J 22 Ω	RCX6JATZ0220
R 337	CHIP RES. 1/8W J 470 Ω or	RRX8JB6Z0471
	CHIP RES. 1/10W J 470 Ω	RRXAJB6Z0471

Ref. No.	Description	Part No.
R 338	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 343	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 344	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 347	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 348	CARBON RES. 1/4W J 680 Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680 Ω	RCX6JATZ0681
R 350	CHIP RES. 1/8W J 330 Ω or	RRX8JB6Z0331
	CHIP RES. 1/10W J 330 Ω	RRXAJB6Z0331
R 352	CHIP RES. 1/8W J 12k Ω or	RRX8JB6Z0123
	CHIP RES. 1/10W J 12k Ω	RRXAJB6Z0123
R 354	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 355	CHIP RES. 1/8W J 220 Ω or	RRX8JB6Z0221
	CHIP RES. 1/10W J 220 Ω	RRXAJB6Z0221
R 363	PCB JUMPER D0.6-P5.0	JW5.0T
R 366	CHIP RES. 1/8W J 220 Ω or	RRX8JB6Z0221
	CHIP RES. 1/10W J 220 Ω	RRXAJB6Z0221
R 367	CHIP RES. 1/8W J 330 Ω or	RRX8JB6Z0331
	CHIP RES. 1/10W J 330 Ω	RRXAJB6Z0331
R 368	CHIP RES. 1/8W J 560 Ω or	RRX8JB6Z0561
	CHIP RES. 1/10W J 560 Ω	RRXAJB6Z0561
R 369	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 371	CHIP RES. 1/8W J 10M Ω or	RRX8JB6Z0106
	CHIP RES. 1/10W J 10M Ω	RRXAJB6Z0106
R 373	CHIP RES. 1/8W J 560k Ω or	RRX8JB6Z0564
	CHIP RES. 1/10W J 560k Ω	RRXAJB6Z0564
R 375	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 376	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 377	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R 378	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R 379	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 380	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 381	CHIP RES. 1/8W J 220 Ω or	RRX8JB6Z0221
	CHIP RES. 1/10W J 220 Ω	RRXAJB6Z0221
R 382	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 383	PCB JUMPER D0.6-P5.0	JW5.0T
R 384	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 386	CHIP RES. 1/8W J 3.3k Ω or	RRX8JB6Z0332
	CHIP RES. 1/10W J 3.3k Ω	RRXAJB6Z0332
R 387	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 388	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R 394	PCB JUMPER D0.6-P5.0	JW5.0T
R 395	PCB JUMPER D0.6-P5.0	JW5.0T
R 396	CARBON RES. 1/4W J 330k Ω or	RCX4JATZ0334
	CARBON RES. 1/6W J 330k Ω	RCX6JATZ0334
R 401	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 402	CHIP RES. 1/8W J 8.2k Ω or	RRX8JB6Z0822
	CHIP RES. 1/10W J 8.2k Ω	RRXAJB6Z0822
R 403	CHIP RES. 1/8W J 12k Ω or	RRX8JB6Z0123
	CHIP RES. 1/10W J 12k Ω	RRXAJB6Z0123

Ref. No.	Description	Part No.
R 404	CHIP RES. 1/8W J 330k Ω or	RRX8JB6Z0334
	CHIP RES. 1/10W J 330k Ω	RRXAJB6Z0334
R 405	CARBON RES. 1/4W J 120 Ω or	RCX4JATZ0121
	CARBON RES. 1/6W J 120 Ω	RCX6JATZ0121
R 406	CHIP RES. 1/8W J 18k Ω or	RRX8JB6Z0183
	CHIP RES. 1/10W J 18k Ω	RRXAJB6Z0183
R 407	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 410	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 411	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R 413	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 414	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 415	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 416	CHIP RES. 1/8W J 100k Ω or	RRX8JB6Z0104
	CHIP RES. 1/10W J 100k Ω	RRXAJB6Z0104
R 419	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 422	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 423	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 424	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R 425	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R 426	CHIP RES. 1/8W J 330 Ω or	RRX8JB6Z0331
	CHIP RES. 1/10W J 330 Ω	RRXAJB6Z0331
R 428	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 429	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R 430	CHIP RES. 1/8W J 1.8k Ω or	RRX8JB6Z0182
	CHIP RES. 1/10W J 1.8k Ω	RRXAJB6Z0182
R 432	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 433	PCB JUMPER D0.6-P5.0	JW5.0T
R 434	CHIP RES. 1/8W J 3.3M Ω or	RRX8JB6Z0335
	CHIP RES. 1/10W J 3.3M Ω	RRXAJB6Z0335
R 435	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 436	CHIP RES. 1/8W J 100k Ω or	RRX8JB6Z0104
	CHIP RES. 1/10W J 100k Ω	RRXAJB6Z0104
R 437	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 438	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 439	CHIP RES. 1/8W J 820 Ω or	RRX8JB6Z0821
	CHIP RES. 1/10W J 820 Ω	RRXAJB6Z0821
R 440	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 441	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R 442	CHIP RES. 1/8W J 680k Ω or	RRX8JB6Z0684
	CHIP RES. 1/10W J 680k Ω	RRXAJB6Z0684
R 443	CHIP RES. 1/8W J 1.2k Ω or	RRX8JB6Z0122
	CHIP RES. 1/10W J 1.2k Ω	RRXAJB6Z0122
R 445	CHIP RES. 1/8W J 8.2k Ω or	RRX8JB6Z0822
	CHIP RES. 1/10W J 8.2k Ω	RRXAJB6Z0822
R 450	CHIP RES. 1/8W J 4.7k Ω or	RRX8JB6Z0472
	CHIP RES. 1/10W J 4.7k Ω	RRXAJB6Z0472
R 451	CHIP RES. 1/8W J 33k Ω or	RRX8JB6Z0333

Ref. No.	Description	Part No.
	CHIP RES. 1/10W J 33k Ω	RRXAJB6Z0333
R 452	CHIP RES. 1/8W J 2.2M Ω or	RRX8JB6Z0225
	CHIP RES. 1/10W J 2.2M Ω	RRXAJB6Z0225
R 453	CARBON RES. 1/4W J 27k Ω or	RCX4JATZ0273
	CARBON RES. 1/6W J 27k Ω	RCX6JATZ0273
R 454	CHIP RES. 1/8W J 4.7k Ω or	RRX8JB6Z0472
	CHIP RES. 1/10W J 4.7k Ω	RRXAJB6Z0472
R 461	CARBON RES. 1/4W J 330 Ω or	RCX4JATZ0331
	CARBON RES. 1/6W J 330 Ω	RCX6JATZ0331
R 462	CARBON RES. 1/4W J 2k Ω or	RCX4JATZ0202
	CARBON RES. 1/6W J 2k Ω	RCX6JATZ0202
R 464	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 465	CHIP RES. 1/8W J 6.8k Ω or	RRX8JB6Z0682
	CHIP RES. 1/10W J 6.8k Ω	RRXAJB6Z0682
R 466	CHIP RES. 1/8W J 6.8k Ω or	RRX8JB6Z0682
	CHIP RES. 1/10W J 6.8k Ω	RRXAJB6Z0682
R 467	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 468	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 480	PCB JUMPER D0.6-P5.0	JW5.0T
R 481	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 482	CHIP RES. 1/8W J 47k Ω or	RRX8JB6Z0473
	CHIP RES. 1/10W J 47k Ω	RRXAJB6Z0473
R 483	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 484	CHIP RES. 1/8W J 2.7k Ω or	RRX8JB6Z0272
	CHIP RES. 1/10W J 2.7k Ω	RRXAJB6Z0272
R 485	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 486	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 487	CHIP RES. 1/8W J 2.2k Ω or	RRX8JB6Z0222
	CHIP RES. 1/10W J 2.2k Ω	RRXAJB6Z0222
R 499	PCB JUMPER D0.6-P5.0	JW5.0T
R 619 ⚠	CHIP RES. 1/8W J 1k Ω or	RRX8JB6Z0102
	CHIP RES. 1/10W J 1k Ω	RRXAJB6Z0102
R 626 ⚠	CARBON RES. 1/4W J 12 Ω or	RCX4JATZ0120
	CARBON RES. 1/6W J 12 Ω	RCX6JATZ0120
R 627 ⚠	CHIP RES. 1/8W J 15 Ω or	RRX8JB6Z0150
	CHIP RES. 1/10W J 15 Ω	RRXAJB6Z0150
R 628 ⚠	FIXED METAL OXIDE FILM RES. 2W J 47 Ω or	RN02470DP004
	METAL RESISTOR 2W J 47 Ω or	RN02470ZU001
	FIXED METAL OXIDE FILM RES. 2W J 47 Ω or	RN02470KE007
	METAL OXIDE RESISTOR 2W J 47 Ω H1=11	RN02470UB001
R 629 ⚠	FIXED METAL OXIDE FILM RES. 2W J 47 Ω or	RN02470DP004
	METAL RESISTOR 2W J 47 Ω or	RN02470ZU001
	FIXED METAL OXIDE FILM RES. 2W J 47 Ω or	RN02470KE007
	METAL OXIDE RESISTOR 2W J 47 Ω H1=11	RN02470UB001
R 654	CHIP RES. 1/8W J 10k Ω or	RRX8JB6Z0103
	CHIP RES. 1/10W J 10k Ω	RRXAJB6Z0103
R 663	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 665 ⚠	CARBON RES. 1/4W J 10 Ω or	RCX4JATZ0100
	CARBON RES. 1/6W J 10 Ω	RCX6JATZ0100
R 666	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 667 ⚠	CHIP RES. 1/8W J 100 Ω or	RRX8JB6Z0101
	CHIP RES. 1/10W J 100 Ω	RRXAJB6Z0101
R 672 ⚠	FIXED METAL OXIDE FILM RES. 2W J 6.8 Ω or	RN026R8DP004
	METAL RESISTOR 2W J 6.8 Ω or	RN026R8ZU001
	FIXED METAL OXIDE FILM RES. 2W J 6.8 Ω or	RN026R8KE010
	METAL RESISTOR 2W J 6.8 Ω	RN026R8UB001
R 674	CHIP RES. 1/8W J 270 Ω or	RRX8JB6Z0271

Ref. No.	Description	Part No.
	CHIP RES. 1/10W J 270 Ω	RRXAJB6Z0271
R 701	CARBON RES. 1/4W J 75 Ω or	RCX4JATZ0750
	CARBON RES. 1/6W J 75 Ω	RCX6JATZ0750
R 702	PCB JUMPER D0.6-P5.0	JW5.0T
R 703	PCB JUMPER D0.6-P5.0	JW5.0T
R 709	CHIP RES. 1/8W J 470 Ω or	RRX8JB6Z0471
	CHIP RES. 1/10W J 470 Ω	RRXAJB6Z0471
R 710	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 750	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 801	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 803	PCB JUMPER D0.6-P5.0	JW5.0T
R 806 ⚠	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 807 ⚠	FIXED METAL OXIDE FILM RES. 1W J 12 Ω or	RN01JZPZ0120
	METAL RESISTOR 1W J 12 Ω or	RN01120ZU001
	METAL FILM RES.(STRAIGHT)1W J 12 Ω	RN01JZQZ0120
R 808 ⚠	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 811	CARBON RES. 1/4W J 10 Ω or	RCX4JATZ0100
	CARBON RES. 1/6W J 10 Ω	RCX6JATZ0100
R 812	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 849	CARBON RES. 1/2W J 100 Ω or	RCX2JZQZ0101
	CARBON RES. 1/2W J 100 Ω	RCX2101KA013
R 991	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 992	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 993	CHIP RES. 1/8W J 82k Ω or	RRX8JB6Z0823
	CHIP RES. 1/10W J 82k Ω	RRXAJB6Z0823
R 994	CHIP RES. 1/8W J 1.2k Ω or	RRX8JB6Z0122
	CHIP RES. 1/10W J 1.2k Ω	RRXAJB6Z0122
R 995	PCB JUMPER D0.6-P5.0	JW5.0T
	SWITCHES	
SW 101	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 102	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 103	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 104	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 105	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 106	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 107	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 108	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 109	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 110	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 201	PUSH SWITCH SPPB61066A or	SSP0102AL001
	PUSH SWITCH JPS1120-0601H	SSP0102SR001
	CRYSTAL OSCILLATORS	
T 301	VCO COIL KHI-821023 or	LFA08V0KV002
	VCO COIL KS1252NC	LFA08V0LH002
X 201	CRYSTAL OSCILLATOR HC-49/U or	FXD106LLN001
	CRYSTAL OSCILLATOR AT49-10.6 or	FXD106LDS002
	CRYSTAL OSCILLATOR :10.6MHz S8562	FXD106LCT001
X 202	CRYSTAL OSCILLATOR 32KHz(10PPM) or	1811351
	CRYSTAL OSCILLATOR 32.768KHZ or	FXB323LDS002
	CRYSTAL OSCILLATOR 32KHz(10PPM)	1811350
X 301	CERAMIC RESONATOR CSB503F18	FY0504PMR001
X 321	CRYSTAL OSCILLATOR 3.579545 MHz	FXD355LLN001
X 401	CRYSTAL OSCILLATOR 3.579545MHz or	FXC355LLN001
	CRYSTAL OSCILLATOR 3.579545MHz	1811389
	MISCELLANEOUS	
CF 301	CERAMIC FILTER SFSH4.5MCB	FBB455PMR001
CF 302	CERAMIC TRAP TPS4.5MB2	FBE455PMR001
JK 701	RCA JACK 1P AV-8.4-9Y	JXRL010RP010
JK 702	RCA JACK 1P AV-8.4-9W	JXRL010RP011
JK 801	EARPHONE JACK HSJ1403-01-010 or	JYSL030HD002
	EARPHONE JACK HTJ-035-1ZEBTZ	JYSL030GE001
RS 201	REMOCON RECEIVE UNIT PIC-26042SR	USESJRSKK023
SF 003	SAW FILTER TSF5229P	FBB456PSY008
SN 991	DEW SENSOR EYHS-10R4	PCZHUMZMS004
TB 5	BUSH LED(E) H1600UD	0VM408832
TB 16	BUSH LED(D) H1600UD	0VM408655
TU 001	TUNER UNIT TEDH9-002A or	UTUNNTUAL018
	TUNER UNIT B8055AP	UTUNNTUSP012

MUT CBA

Ref. No.	Description	Part No.
	MUT CBA	0ESA02865
	Consists of the following	
	H.V. CBA	————
	CRT CBA	————

H.V. CBA

Ref. No.	Description	Part No.
	H.V. CBA	————
	Consists of the following	
	CAPACITORS	
C 552	FILM CAP.(P) 0.1μF/50V J or	CMA1JJS00104
	FILM CAP.(P) 0.1μF/50V J TV or	CMB1JJS00104
	MYLAR CAP. 0.1μF/50V K	2250104S
C 553	ELECTROLYTIC CAP. 2.2μF/50V M LL	CE1JMASLL2R2
C 554	PCB JUMPER D0.6-P5.0	JW5.0T
C 555	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470
C 556	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPDL102
C 557	ELECTROLYTIC CAP. 2.2μF/50V M LL	CE1JMASLL2R2
C 559	ELE. CAP. 330μF/35V M	CE1GMASDL331
C 560	FILM CAP.(P) 0.056μF/50V J or	CMA1JJS00563
	MYLAR CAP. 0.056μF/50V J TV or	CMB1JJS00563
	MYLAR CAP. 0.056μF/50V KT	2250563S
C 569	FILM CAP.(P) 0.012μF/50V J or	CMA1JJS00123
	MYLAR CAP. 0.012μF/50V J TV or	CMB1JJS00123
	MYLAR CAP. 0.012μF/50V K	2250123S
C 572 ⚠	P.P. CAP. 0.22μF/200V J or	CA2D224KF002
	METALLIZED FILM CAP. 0.22μF/200V J	CT2D224F7001
C 573	FILM CAP.(P) 0.056μF/50V J or	CMA1JJS00563
	FILM CAP.(P) 0.056μF/100V J or	CMA2AJS00563
	MYLAR CAP. 0.056μF/100V J TV or	CMB2AJS00563
	MYLAR CAP. 0.056μF/100V K	1251563S
C 574 ⚠	ELECTROLYTIC CAP. 4.7μF/250V	CE2EMASDL4R7
C 577	FILM CAP.(P) 0.01μF/50V J or	CMA1JJS00103
	MYLAR CAP. 0.01μF/50V J TV or	CMB1JJS00103
	MYLAR CAP. 0.01μF/50V K	2250103S
C 578	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470
C 580 ⚠	METALLIZED FILM CAP. 0.0068μF/1.6kV J or	1220498
	METALLIZED FILM CAP. 0.0068μF/1.6kV J	CT3C682F7002
C 581 ⚠	CERAMIC CAP. LB 820pF/2kV or	CA3D821KG004
	CERAMIC CAP. BN 820pF/2kV	CCD3DKA0B821
C 584	ELECTROLYTIC CAP. 1μF/160V M or	CE2CMASTL010

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 1µF/160V M	CE2CMASTL1R0
C 591 ⚠	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C 592 ⚠	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
	CONNECTORS	
CN 502	CONNECTOR 6P TUC-P06X-B1	JCTUS06TG001
CN 503	CONNECTOR 7P TUC-P07X-B1	JCTUS07TG001
CN 504	CONNECTOR 5P TUC-P05X-B1	JCTUS05TG001
CN 571	CONNECTOR BASE 5P or	1730813
	CONNECTOR BASE 5P RTB-1.5-5P	J3RTC05JG001
	DIODES	
D 552	RECTIFIER DIODE ERA15-02	AERA1502****
D 555	ZENER DIODE MTZJT-7720B	QDTB00MTZJ20
D 571 ⚠	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D 572 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 573	PCB JUMPER D0.6-P5.0	JW5.0T
D 584 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 585	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D 591 ⚠	ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D 595 ⚠	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D 596 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 597 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 598 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
	IC	
IC 551 ⚠	IC LA7840	QSBLA0SSY074
	COIL	
L 572 ⚠	INDUCTOR 33µH-J-26T or	LLAXJATTU330
	INDUCTOR 33µH-K-26T	LLAXKDTKA330
	TRANSISTORS	
Q 551	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 552	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 571 ⚠	TRANSISTOR TT2024-YB	QQQZ00TT2024
Q 572 ⚠	TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q 591 ⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
	RESISTORS	
J 567 ⚠	FUSE RES. 1/4W J 4.7 Ω or	RFX44R7UB002
	FUSE RES. 1/4W J 4.7 Ω	RFX44R7KA007
R 542	PCB JUMPER D0.6-P12.5	JW12.5T
R 551	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 552	CARBON RES. 1/4W J 680 Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680 Ω	RCX6JATZ0681
R 553	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 554	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 555	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R 556	CARBON RES. 1/4W J 4.7 Ω or	RCX4JATZ04R7
	CARBON RES. 1/6W J 4.7 Ω	RCX6JATZ04R7
R 557	CARBON RES. 1/4W J 220 Ω or	RCX4JATZ0221
	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R 558	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R 559	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 560	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R 561	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 562	CARBON RES. 1/4W J 4.7 Ω or	RCX4JATZ04R7
	CARBON RES. 1/6W J 4.7 Ω	RCX6JATZ04R7
R 563	CARBON RES. 1/4W J 4.7 Ω or	RCX4JATZ04R7
	CARBON RES. 1/6W J 4.7 Ω	RCX6JATZ04R7
R 573	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 574 ⚠	FIXED METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102DP004
	METAL RESISTOR 2W J 1k Ω or	RN02102ZU001
	FIXED METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102KE007
	METAL RESISTOR 2W J 1k Ω	RN02102UB001
R 575 ⚠	FIXED METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102DP004
	METAL RESISTOR 2W J 1k Ω or	RN02102ZU001
	FIXED METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102KE007
	METAL RESISTOR 2W J 1k Ω	RN02102UB001
R 576	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 577	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 580	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R 581 ⚠	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 582 ⚠	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 583 ⚠	FIXED METAL OXIDE FILM RES. 1W J 1.8 Ω or	RN011R8DP003
	METAL RESISTOR 1W J 1.8 Ω or	RN011R8ZU001
	FIXED METAL OXIDE FILM RES. 1W J 1.8 Ω or	RN011R8KE009
	METAL RESISTOR 1W J 1.8 Ω	RN011R8UB001
R 584 ⚠	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 585	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R 586	PCB JUMPER D0.6-P5.0	JW5.0T
R 587	CARBON RES. 1/4W J 220k Ω or	RCX4JATZ0224
	CARBON RES. 1/6W J 220k Ω	RCX6JATZ0224
R 588	CARBON RES. 1/4W J 150k Ω or	RCX4JATZ0154
	CARBON RES. 1/6W J 150k Ω	RCX6JATZ0154
R 589 ⚠	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R 591 ⚠	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R 592 ⚠	CARBON RES. 1/4W J 180k Ω or	RCX4JATZ0184
	CARBON RES. 1/6W J 180k Ω	RCX6JATZ0184
R 593 ⚠	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 594 ⚠	CARBON RES. 1/4W J 56k Ω or	RCX4JATZ0563
	CARBON RES. 1/6W J 56k Ω	RCX6JATZ0563
R 596	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 597 ⚠	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 598 ⚠	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 599 ⚠	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
	TRANSFORMERS	
T 571 ⚠	FLYBACK TRANS BSC25-2003S	LTF00CPS2016
T 572 ⚠	HORIZONTAL DRIVE TRANS LP2-003	LTH00CPA5003
	MISCELLANEOUS	
BC 571	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
CL502A	LEAD WIRE 6P 350/BLA/AWG26#2468	WX3006J65535
CL503A	LEAD WIRE 7P 450/BLA/AWG26#2468	WX3007J65545
DB 2	13V H/V HEAT SINK(PDK) T5000UA	0EM404715

Ref. No.	Description	Part No.
DB 3	WASHER 12X3.2XT1	WPM3121
DL 1	SCREW P-TIGHT 3X10 BIND HEAD	GBUP3100
DL 2	B-TITE SCREW 3X8 BIND + CHROME	GBMB3080
WH502B	WIRE HOLDER 6P HWT0200-06 or	XW0HT06C7001
	WIRE HOLDER 6P 51048-0600	XW01D06NF001
WH503B	WIRE HOLDER 7P HWT0200-07 or	XW0HT07C7001
	WIRE HOLDER 7P 51048-0700	XW01D07NF001
WH504A	WIRE HOLDER 5P HWT0200-05 or	XW0HT05C7001
	WIRE HOLDER 5P 51048-0500	XW01D05NF001
.	WIRE ASSEMBLY FBT SHORT RING	WX1B4600-008
..	LEAD CLAMPER 100MM or	1790356
	LEAD CLAMPER	1790256

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA	————
	Consists of the following	
	CAPACITORS	
C 501	CERAMIC CAP.(AX) B K 270pF/50V	CCA1JKT0B271
C 502	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C 503	CERAMIC CAP.(AX) B K 270pF/50V	CCA1JKT0B271
C 504	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C 507	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C 510	CERAMIC CAP. 0.001µF/2kV or	CCD3DKP0B102
	CERAMIC CAP. B K 1000pF/2kV	CA3D102MR030
	CONNECTOR	
CN 501	CONNECTOR PIN 1P LV or	1700576
	CONNECTOR PIN 1P RT-01N-2.3A	1730688
	DIODES	
D 501	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 502	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 503	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
	COIL	
L 501	PCB JUMPER D0.6-P5.0	JW5.0T
	TRANSISTORS	
Q 501	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE or	QQSD02SC3468
	TRANSISTOR 2SC2271(D)-AEMP or	2SC2271DZ
	TRANSISTOR 2SC2271(E)-AE	QQSE02SC2271
Q 502	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE or	QQSD02SC3468
	TRANSISTOR 2SC2271(D)-AEMP or	2SC2271DZ
	TRANSISTOR 2SC2271(E)-AE	QQSE02SC2271
Q 503	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE or	QQSD02SC3468
	TRANSISTOR 2SC2271(D)-AEMP or	2SC2271DZ
	TRANSISTOR 2SC2271(E)-AE	QQSE02SC2271
	RESISTORS	
R 501 ⚠	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153DP003
	METAL RESISTOR 1W J 15k Ω or	RN01153ZU001
	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153KE007
	METAL RESISTOR 1W J 15k Ω	RN01153UB001
R 502 ⚠	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153DP003
	METAL RESISTOR 1W J 15k Ω or	RN01153ZU001
	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153KE007
	METAL RESISTOR 1W J 15k Ω	RN01153UB001
R 503 ⚠	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153DP003
	METAL RESISTOR 1W J 15k Ω or	RN01153ZU001
	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153KE007
	METAL RESISTOR 1W J 15k Ω	RN01153UB001
R 504	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 505	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 506	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 507	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 508	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 511	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 512	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 513	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 514	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 516	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R 517	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 518	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R 519	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 520	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R 521	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 531	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 532	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 536	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
	MISCELLANEOUS	
CL501A	LEAD WIRE 3P 230/BLA/AWG26#2468	WX3003J65523
CL504A	LEAD WIRE 5P 250/BLA/AWG26#2468	WX3005J65525
JK 501 ⚠	CRT SOCKET ISMS02S	JSCC220PK003
WH501A	WIRE HOLDER 3P HWT0200-03 or	XW0HT03C7001
	WIRE HOLDER 3P 51048-0300	XW01D03NF001
WH501B	WIRE HOLDER 3P HWT0200-03 or	XW0HT03C7001
	WIRE HOLDER 3P 51048-0300	XW01D03NF001
WH502A	WIRE HOLDER 6P HWT0200-06 or	XW0HT06C7001
	WIRE HOLDER 6P 51048-0600	XW01D06NF001
WH503A	WIRE HOLDER 7P HWT0200-07 or	XW0HT07C7001
	WIRE HOLDER 7P 51048-0700	XW01D07NF001
WH504B	WIRE HOLDER 5P HWT0200-05 or	XW0HT05C7001
	WIRE HOLDER 5P 51048-0500	XW01D05NF001

Power Supply CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA	0ESA02849
	Consists of the following	
	CAPACITORS	
C 1601 ⚠	FILM CAP.(MP) 0.1µF/250V M	CT2E104DC009
C 1603	CERAMIC CAP. 0.01µF/AC250V or	CCD2EZA0F103
	CERAMIC CAP. F Z 0.01µF/500V	CCD2JZD0F103
C 1604	CERAMIC CAP. 0.01µF/AC250V or	CCD2EZA0F103
	CERAMIC CAP. F Z 0.01µF/500V	CCD2JZD0F103
C 1605	CERAMIC CAP. 0.01µF/AC250V or	CCD2EZA0F103

Ref. No.	Description	Part No.
	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZD0F103
C 1606	CERAMIC CAP. 0.01μF/AC250V or	CCD2EZA0F103
	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZD0F103
C 1607	CERAMIC CAP. LB 470pF/2kV or	CA3D471KG004
	CERAMIC CAP. BN 470pF/2kV	CCD3DKA0B471
C 1608	FILM CAP.(P) 0.047μF/50V J or	CMA1JJS00473
	FILM CAP.(P) 0.047μF/50V J TV or	CMB1JJS00473
	MYLAR CAP. 0.047μF/50V K	2250473S
C 1610	FILM CAP.(P) 0.033μF/50V J or	CMA1JJS00333
	FILM CAP.(P) 0.033μF/50V J TV or	CMB1JJS00333
	MYLAR CAP. 0.033μF/50V K	2250333S
C 1611	FILM CAP.(P) 0.056μF/50V J or	CMA1JJS00563
	MYLAR CAP. 0.056μF/50V J TV or	CMB1JJS00563
	MYLAR CAP. 0.056μF/50V KT	2250563S
C 1612	FILM CAP.(P) 0.018μF/50V J or	CMA1JJS00183
	FILM CAP.(P) 0.018μF/50V J TV or	CMB1JJS00183
	MYLAR CAP. 0.018μF/50V K	2250183S
C 1616 ⚠	CERAMIC CAP. 0.01UF F CS or	CCG2HMN0F103
	SAFETY CAP. F M 0.01μF/250V	CCG2EMP0F103
C 1617 ⚠	CERAMIC CAP. 0.01UF F CS or	CCG2HMN0F103
	SAFETY CAP. F M 0.01μF/250V	CCG2EMP0F103
C 1618	CERAMIC CAP. LB 220pF/2kV or	CA3D221KG004
	CERAMIC CAP. BN J 220pF/2kV	CCD3DKA0B221
C 1620	ELECTROLYTIC CAP. 47μF/160V M W/F	CE2CMZNTL470
C 1621	ELECTROLYTIC CAP. 470μF/35V M	CE1GMASDL471
C 1622	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C 1623	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C 1624	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 1625	ELECTROLYTIC CAP. 1000μF/16V M or	CE1CMZPTL102
	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTL102
C 1626	CERAMIC CAP.(AX) SL J 68pF/50V	CCA1JJTSL680
C 1627	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C 1628	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 1629	CERAMIC CAP. F Z 0.01μF/50V	CCD1JZS0F103
C 1630	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 1631	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 1632	ELECTROLYTIC CAP. 100μF/160V M W/F or	CE2CMZNTL101
	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPTL101
C 1633 ⚠	ELECTROLYTIC CAP 220μF/200V M or	CE2DMZNTL221
	ELECTROLYTIC CAP. 220μF/200V M	CE2DMZPTL221
C 1634	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C 1635	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 1636	CERAMIC CAP. F Z 0.01μF/50V	CCD1JZS0F103
C 1637	CARBON RES. 1/4W J 6.8 Ω or	RCX4JATZ06R8
	CARBON RES. 1/6W J 6.8 Ω	RCX6JATZ06R8
C 1638	PCB JUMPER D0.6-P5.0	JW5.0T
C 1951	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPDL102
C 1952	ELECTROLYTIC CAP. 22μF/25V M	CE1EMASDL220
C 1953	FILM CAP.(P) 0.1μF/50V J or	CMA1JJS00104
	FILM CAP.(P) 0.1μF/50V J TV or	CMB1JJS00104
	MYLAR CAP. 0.1μF/50V K	2250104S
C 1954	P.P. CAPACITOR 0.0033μF/630V J or	CT2K332KF011
	P.P. CAPACITOR 0.0033μF/630V J or	CBP2KJD00332
	P.P. CAPACITOR 0.0033μF/630V J	CBP2KKD00332
C 1955	ELECTROLYTIC CAP. 22μF/25V M	CE1EMASDL220
C 1956	ELECTRIC CAP. 3300μF/25V(PJ) or	CA1E332NC052
	ELECTROLYTIC CAP. 3300μF/25V M(KC)	CA1E332EA041
C 1958	CERAMIC CAP. B K 470pF/1KV	CCD3AKP0B471
C 1959	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C 1960	ELECTROLYTIC CAP. 220μF/35V M	CE1GMASDL221
C 1961	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 1962	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 1963 ⚠	P.P. CAPACITOR 0.018μF/630V J or	CT2K183KF011
	P.P. CAPACITOR 0.018μF/630V J or	CBP2KJD00183
	P.P. CAPACITOR 0.018μF/630V J	CBP2KKD00183
C 1966	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103

Ref. No.	Description	Part No.
C 1968	CERAMIC CAP. B K 470pF/1KV	CCD3AKP0B471
C 1969	ELECTROLYTIC CAP. 100μF/160V M W/F or	CE2CMZNTL101
	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPTL101
C 1970	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C 1971	P.P. CAPACITOR 0.015μF/630V J or	CT2K153KF011
	P.P. CAPACITOR 0.015μF/630V J or	CBP2KJD00153
	P.P. CAPACITOR 0.015μF/630V J	CBP2KKD00153
	CONNECTORS	
CN1601	CONNECTOR BASE 2P TV-50P-02-V1 or	J3TVC02TG001
	CONNECTOR BASE 2P RTB-1.5-2P	J3RTC02JG001
CN1953	CONNECTOR 15P TUC-P15X-B1	JCTUS15TG001
	DIODES	
D 1602 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1603 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1604 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1605 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1607 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1608	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 1609	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1610	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1611	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1612 ⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D 1613 ⚠	FAST RECOVERY DIODE ERC25-06	QDQZ0ERC2506
D 1614 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 1615 ⚠	DIODE 1ZC30	QDQZ0001ZC30
D 1616 ⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1617 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 1618 ⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1619	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1620	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1622	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1623	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1625	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1626	ZENER DIODE MTZJT-779.1A	QDTA0MTZJ9R1
D 1627	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1628 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1629 ⚠	ZENER DIODE MTZJT-772.2B	QDTB0MTZJ2R2
D 1630	ZENER DIODE MTZJT-7736A	QDTA00MTZJ36
D 1631 ⚠	ZENER DIODE MTZJT-7720C	QDTC00MTZJ20
D 1633	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1634 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148

Ref. No.	Description	Part No.
	DIODE 1SS176TPA7	1SS176T
D 1635	PCB JUMPER D0.6-P5.0	JW5.0T
D 1637	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1951 ⚠	RECTIFIER DIODE ERA15-02	AERA1502****
D 1952 ⚠	DIODE 1ZC18	QDQZ0001ZC18
D 1953 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 1954 ⚠	FAST RECOVERY DIODE ERD38-06	QDQZ0ERD3806
D 1957	PCB JUMPER D0.6-P5.0	JW5.0T
D 1958 ⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D 1959	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1960 ⚠	SCHOTTKY BARRIER DIODE ERA83-006	QDQZERA83006
D 1961 ⚠	SCHOTTKY BARRIER DIODE ERA83-006	QDQZERA83006
D 1962 ⚠	RECTIFIER DIODE ERA15-02	AERA1502****
D 1963	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1964 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
	ICS	
IC1601 ⚠	PHOTO COUPLER PC817X6 or	QPE600PC817X
	PHOTOCOUPLER LTV-817B-F or	NPEB0LTV817F
	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1951 ⚠	IC:SWITCHING REGURATOR STK740-020A	QSZLA0ZSY009
	COILS	
L 1601 ⚠	LINE FILTER TLF12UA302W1R0 or	LLBG00ZTU025
	LINE FILTER 5.0MH 6Y075 or	LLBG00ZKT004
	LINE FILTER LF005	LLBG00ZLH001
L 1602	CHOKE COIL 47μH-K	LLBD00PKV005
L 1951 ⚠	CHOKE COIL 47μH-K	LLBD00PKV005
	TRANSISTORS	
Q 1601 ⚠	MOS FET 2SK2079-01MR	QFFZ02SK2079
Q 1603 ⚠	TRANSISTOR 2SC2120-O(TPE2) or	QQS002SC2120
	TRANSISTOR 2SC2120(Y)	QQSY02SC2120
Q 1604	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1605 ⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1606	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1609	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1610 ⚠	TRANSISTOR 2SB698(F) or	QQSF002SB698
	TRANSISTOR 2SB698(G)	QQSG002SB698
Q 1611 ⚠	TRANSISTOR 2SC2120-O(TPE2) or	QQS002SC2120
	TRANSISTOR 2SC2120(Y)	QQSY02SC2120
Q 1951	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q 1952	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1954 ⚠	TRANSISTOR 2SA1469(Q) or	QQ9Q02SA1469
	TRANSISTOR 2SA1469(R)	QQ9R02SA1469
Q 1955	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266

Ref. No.	Description	Part No.
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q 1956	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1957	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
	RESISTORS	
R 1601	CARBON RES. 1/2W J 3.3M Ω or	RCX2335A4001
	ANTI-SURGE RESISTOR 1/2W J 3.3M Ω	RMX2335KA011
R 1606	FIXED METAL OXIDE FILM RES. 2W J 0.39 Ω or	RN02R39DP004
	METAL RESISTOR 2W J 0.39 Ω	RN02R39UB001
R 1608	CARBON RES. 1/4W J 680k Ω or	RCX4JATZ0684
	CARBON RES. 1/6W J 680k Ω	RCX6JATZ0684
R 1609	CARBON RES. 1/4W J 680k Ω or	RCX4JATZ0684
	CARBON RES. 1/6W J 680k Ω	RCX6JATZ0684
R 1610	FIXED METAL OXIDE FILM RES. 2W J 220 Ω or	RN02221DP004
	METAL RESISTOR 2W J 220 Ω or	RN02221ZU001
	FIXED METAL OXIDE FILM RES. 2W J 220 Ω or	RN02221KE007
	METAL RES. 2W J 220 Ω	RN02221UB001
R 1611	CARBON RES. 1/4W J 10 Ω or	RCX4JATZ0100
	CARBON RES. 1/6W J 10 Ω	RCX6JATZ0100
R 1613	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1614	FIXED METAL OXIDE FILM RES. 2W J 220 Ω or	RN02221DP004
	METAL RESISTOR 2W J 220 Ω or	RN02221ZU001
	FIXED METAL OXIDE FILM RES. 2W J 220 Ω or	RN02221KE007
	METAL RES. 2W J 220 Ω	RN02221UB001
R 1615	CARBON RES. 1/4W J 6.8 Ω or	RCX4JATZ06R8
	CARBON RES. 1/6W J 6.8 Ω	RCX6JATZ06R8
R 1616	CARBON RES. 1/4W J 330 Ω or	RCX4JATZ0331
	CARBON RES. 1/6W J 330 Ω	RCX6JATZ0331
R 1617	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R 1618	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R 1619	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1621 ⚠	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 1622 ⚠	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 1623 ⚠	SEMENT RESISTOR 5W3.9k Ω J or	RW05392DP008
	CEMENT RES. 5W 3.9k Ω H=25MM or	RW05392PG004
	CEMENT RESISTOR RS-SQZ05392J	RW05392Y4004
R 1625 ⚠	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 1626 ⚠	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R 1627	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1628	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1629	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1630	CARBON RES. 1/4W J 220k Ω or	RCX4JATZ0224
	CARBON RES. 1/6W J 220k Ω	RCX6JATZ0224
R 1631	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 1632	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1637 ⚠	FIXED METAL OXIDE FILM RES. 2W J 6.8k Ω or	RN02682DP004
	METAL RESISTOR 2W J 6.8k Ω or	RN02682ZU001
	METAL RES. 2W J 6.8k Ω or	RN02682KE007

Ref. No.	Description	Part No.
	METAL RESISTOR 2W J 6.8k Ω	RN02682UB001
R 1638	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R 1639	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R 1640	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 1642 ⚠	FIXED METAL OXIDE FILM RES. 2W J 560 Ω or	RN02561DP004
	METAL RESISTOR 2W J 560 Ω or	RN02561ZU001
	FIXED METAL OXIDE FILM RES. 2W J 560 Ω or	RN02561KE007
	METAL RES. 2W J 560 Ω	RN02561UB001
R 1643 ⚠	CARBON RES. 1/4W J 56k Ω or	RCX4JATZ0563
	CARBON RES. 1/6W J 56k Ω	RCX6JATZ0563
R 1644	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1646	PCB JUMPER D0.6-P5.0	JW5.0T
R 1647 ⚠	FIXED METAL OXIDE FILM RES. 1W J 6.8 Ω or	RN016R8DP003
	METAL RESISTOR 1W J 6.8 Ω or	RN016R8ZU001
	FIXED METAL OXIDE FILM RES. 1W J 6.8 Ω or	RN016R8KE009
	METAL RES. 1W J 6.8 Ω	RN016R8UB001
R 1648	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 1649	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 1650 ⚠	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 1652	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1653	CEMENT RES. 5W K 1.2 Ω or	RW051R2DP005
	CEMENT RESISTOR 5W K 1.2 Ω or	RW051R2PG001
	CEMENT RESISTOR SQZ05S1R2J	RW051R2Y4001
R 1654	CARBON RES. 1/4W J 220 Ω or	RCX4JATZ0221
	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R 1655	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R 1656	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R 1657	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
R 1658	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R 1659	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1660 ⚠	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 1661	PCB JUMPER D0.6-P5.0	JW5.0T
R 1663	CARBON RES. 1/4W J 39 Ω or	RCX4JATZ0390
	CARBON RES. 1/6W J 39 Ω	RCX6JATZ0390
R 1952	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 1953	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1954	CEMENT RES. 5W J 470 Ω or	RW05471DP006
	CEMENT RESISTOR 5W J 470 Ω H=10MM or	RW05471PG001
	CEMENT RESISTOR RS-SQZ05S470J	RW05471Y4003
R 1955 ⚠	CARBON RES. 1/4W J 56k Ω or	RCX4JATZ0563
	CARBON RES. 1/6W J 56k Ω	RCX6JATZ0563
R 1956 ⚠	CARBON RES. 1/4W J 56k Ω or	RCX4JATZ0563
	CARBON RES. 1/6W J 56k Ω	RCX6JATZ0563
R 1957 ⚠	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R 1958 ⚠	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R 1959 ⚠	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821

Ref. No.	Description	Part No.
R 1960 ⚠	CARBON RES. 1/4W J 680 Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680 Ω	RCX6JATZ0681
R 1961 ⚠	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R 1962	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1963	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1964	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1965	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1966	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1967	FIXED METAL OXIDE FILM RES. 2W J 15 Ω or	RN02150DP004
	METAL RESISTOR 2W J 15 Ω or	RN02150ZU001
	FIXED METAL OXIDE FILM RES. 2W J 15 Ω or	RN02150KE007
	METAL RESISTOR 2W J 15 Ω	RN02150UB001
R 1968	FIXED METAL OXIDE FILM RES. 2W J 15 Ω or	RN02150DP004
	METAL RESISTOR 2W J 15 Ω or	RN02150ZU001
	FIXED METAL OXIDE FILM RES. 2W J 15 Ω or	RN02150KE007
	METAL RESISTOR 2W J 15 Ω	RN02150UB001
R 1969	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1970	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1971 ⚠	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R 1972 ⚠	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 1973	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1974	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1976	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 1977	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 1978	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1979 ⚠	CEMENT RES. 5W K 6.8 Ω or	RW056R8DP005
	CEMENT RESISTOR 5W J 6.8 PHM H=10MM or	RW056R8PG001
	CEMENT RESISTOR SQZ05S6R8J	RW056R8Y4001
R 1980 ⚠	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1981	ZENER DIODE MTZJT-775.1A	QDTA0MTZJ5R1
R 1982	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
TRANSFORMERS		
T 1601 ⚠	SWITCHING TRANS 9A07	LTT00CPKT037
T 1951 ⚠	SWITCHING TRANS 8A15	LTT00ZPKT036
VARIABLE RESISTORS		
VR1601 ⚠	CARBON P.O.T. 10k Ω B or	VRCB103KA011
	CARBON P.O.T. 10k Ω B	VRCB103HH005
VR1951 ⚠	CARBON P.O.T. 20k Ω B or	VRCB203KA011
	CARBON P.O.T. 20k Ω B	VRCB203HH005
VR1952 ⚠	CARBON P.O.T. 500 Ω B or	VRCB501KA011
	CARBON P.O.T. 500 Ω B	VRCB501HH005
MISCELLANEOUS		
BC1601	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1602	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1603	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1604	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1605	PCB JUMPER D0.6-P5.0	JW5.0T
BC1606	PCB JUMPER D0.6-P5.0	JW5.0T
BC1607	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Description	Part No.
BC1608	PCB JUMPER D0.6-P5.0	JW5.0T
BC1609	PCB JUMPER D0.6-P5.0	JW5.0T
BC1610	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1951	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1952	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1953	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1954	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1955	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1956	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
CL1601	LEAD WIRE 7P 280/BLA/AWG26#2468	WX3007J65528
CL1602	CONNECTOR BASE 6P TUC-P06P-B1	J3TUA06TG001
CL1603	LEAD WIRE 8P 280/BLA/AWG26#2468	WX3008J65528
F 1601 ⚠	FUSE TDS4A125VU/C or	PAGD20CW3402
	FUSE 4A/125V 237 TYPE	PAGJ20CAG402
F 1951 ⚠	FUSE 6A/125V 237 TYPE	PAGJ20CAG602
FH1601	FUSE HOLDER MSF-015	XH01Z00LY001
FH1601 ⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1602	FUSE HOLDER MSF-015	XH01Z00LY001
FH1602 ⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1951	FUSE HOLDER MSF-015	XH01Z00LY001
FH1951 ⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1952	FUSE HOLDER MSF-015	XH01Z00LY001
FH1952 ⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
JK1601 ⚠	AC INLET CCT9302-0201M or	JTDC0P0SR001
	AC INLET HSC0555-010010 or	JTDC0P0HD001
	AC INLET YKE31-0120	JTDC0P0JC001
JK1951	DC JACK	1630382
PS1601 ⚠	POSISTOR ZPB58BL7R0F or	QNQZ58BL7R0F
	POSISTOR ZPB31BL7R0B	5790124
PB 4	13VPOW HEAT SINK PDL ASSEMBLY	0EM404717
PB 5	HEAT SINK(EJ) B4800UA	0EM403657
PB 6	HEAT SINK HOLDER T4000UA	0EM404932B
SA1601 ⚠	SURGE ABSORBER JVR-07N471K or	NVQZVR07N471
	SURGE ABSORBER AVR-S07D471KAAS	QVQZ0AVRS07D
SG1601 ⚠	GAP. G3.10D or	FAZ000LD6004
	GAP. WSG-R-3.10	FAZ000LW1002
SG1602	PCB JUMPER D0.6-P7.5	JW7.5T
WH1951	WIRE HOLDER 15P HWT0200-15 or	XW0HT15C7001
	WIRE HOLDER 15P 51048-1500	XW01D15NF001
WH1952	WIRE HOLDER 15P HWT0200-15 or	XW0HT15C7001
	WIRE HOLDER 15P 51048-1500	XW01D15NF001

Chassis Electrical Parts

Ref. No.	Description	Part No.
CLN801	WIRE ASSEMBLY 2P/170	WX1B4800-002
SP 801	SPEAKER S08F02B	DSD0808XQ010
V 501 ⚠	CRT A23KQU22X01	TCRT190SM012
L 601 ⚠	DEGAUSSING COIL A4100468/A4100469	LLBH00ZTZ019
	WIRE ASSEMBLY(1P) CRT GND	WX1B4800-001
	LEAD CLAMPER 100MM or	1790356
	LEAD CLAMPER	1790256

DECK PARTS LIST

Note:

Three different, but interchangeable, types of Capstan Motor (B37) may be installed in these models. Based on the type of capstan motor, items B365 and L1063 will be used/not used as shown in the table below.

Type	Part No.	B365	L1063
A	MMDZB12SJ007	Not used	Not used
B	MMDZB12SJ006	Not used	Not used
C	N9630CML	Used	Used

Ref. No.	Description	Part No.
	DECK ASSEMBLY	N8002FT
2B 6	DECK EARTH PLATE U17	0VM408662
2L 051	SCREW, S-TIGHT M3X5 BIND HEAD+	GBMS3050
B 1	CHASSIS ASSEMBLY MK8	0VSA09370
B 2	CYLINDER ASSEMBLY(MK8) NTSC 2HD SQPB	N8008CYL
B 3	LOADING MOTOR ASSEMBLY MK7	0VSA08840
B 4	MOTOR HOLDER MK8	0VM409330
B 8	PULLEY ASSEMBLY MK6	0VSA08132
B 9	MOVING GUIDE S PREPARATION MK7	0VSA09220
B 10	MOVING GUIDE T PREPARATION MK7	0VSA09221
B 11	LOADING ARM T ASSEMBLY MK7	0VSA08858
B 12	LOADING ARM S ASSEMBLY MK8	0VSA09410
B 13	LOADING LEVER ASSEMBLY MK7	0VSA08821
B 15	LUMIRROR WASHER 3.1X6X0.35	0VM403269
B 21	LOADING BELT MK6	0VM407712
B 27	TENSION LEVER ASSEMBLY MK8	0VSA09374
B 31	AC HEAD ASSEMBLY MK7	0VSA08825
B 32	REEL(T) MK8	0VM303516
B 35	TAPE GUIDE ASSEMBLY MK8	0VSA09359
B 37	CAPSTAN MOTOR F2QTB36 or	MMDZB12SJ007
	CAPSTAN MOTOR 288/CCM001 or	N9630CML
	CAPSTAN MOTOR F2QTB35	MMDZB12SJ006
B 38	MODE LEVER MK8	0VM202450
B 46	TAPE GUIDE ARM SPRING MK6	0VM407704C
B 47	ADJUST SCREW M2.6X7 S-TIGHT	0VM409436
B 51	FF ARM MK8	0VM303504
B 52	CAPSTAN BELT(2) MK6	0VM408223
B 53	REEL P.S.W MK8	0VM409410
B 73	FE HEAD(MK7) HVFHP0019A or	DHVEC01AL004
	FE HEAD(MK7) MH-131SF7	DHVEC01Z0001
B 74	PRISM MK8	0VM303518
B 81	M LEVER HOLDER MK7	0VM303171
B 108	P.S.W F	0VM402629A
B 121	WORM MK6	0VM407662
B 122	P.S.W C	0VM402626
B 123	P.S.W (WORM THRUST)	0VM403348
B 126	PULLEY MK6	0VM407661
B 132	CLUTCH ASSEMBLY MK8	0VSA09379A
B 133	IDLER ASSEMBLY MK8	0VSA09377
B 142	SHAFT LOCK ASSEMBLY	0VSA04642
B 144	CLUTCH WASHER MK2	0VM404428
B 145	MAIN LEVER ASSEMBLY MK7	0VSA08822
B 148	TG CAP MK6	0VM407664C
B 300	FL ASSEMBLY MK8	0VSA09361
B 302	RACK MK8	0VM202451
B 303	FRONT DOOR OPENER MK7	0VM303185G
B 304	DOOR OPENER MK7	0VM303148H
B 308	SLIDER SHAFT MK8	0VM409335
B 313	DRIVE GEAR SPRING MK7	0VM408557A
B 319	CASSETTE SPRING MK8	0VM409333
B 329	HOLDER KICK ARM	0VM302956B
B 332	HOLDER ARM SPRING	0VM408062B
B 339	REEL(S) MK8	0VM303515
B 344	CASSETTE GUIDE R MK8	0VM100786D
B 345	CASSETTE GUIDE L MK8	0VM100785
B 347	GUIDE HOLDER(F) MK8	0VM303522
B 348	GUIDE HOLDER R MK8	0VM303502
B 350	SLIDER GEAR MK8	0VM409329
B 352	CASSETTE DRIVE GEAR(N) MK6	0VM302969A
B 353	CASSETTE PLATE SUB ASSEMBLY MK8	0VSA09368
B 354	SLIDER(R) MK8	0VM202454
B 355	SLIDER(L) MK8	0VM202453
B 358	CAM MK7	0VM100724
B 359	CLEANER LEVER MK7 (See Mechanical Parts List)	
B 360	CLEAN ROLLER MK4 (See Mechanical Parts List)	
B 361	CLEAN BEARING MK4 (See Mechanical Parts List)	
B 365	RADIATOR PLATE MK7	0VM408563
B 401	VH CONNECTOR 4A MK7	0VM303174
B 402	VH CONNECTOR 4B MK6	0VM407671
B 403	ACH CONNECTOR A MK7	0VM303177J
B 404	ACH CONNECTOR B MK7	0VM408582
B 405	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B 406	SENSOR GEAR MK7	0VM408575
B 407	M GEAR MK6	0VM407666A
B 409	EJECT SPRING MK7	0VM408716
B 410	PINCH ROLLER ASSEMBLY MK7	0VSA08809
B 411	PINCH SPRING MK7	0VM408550
B 412	S BRAKE LEVER MK7	0VM303150
B 413	M BRAKE T SUB ASSEMBLY MK7	0VSA09222
B 414	M BRAKE S ASSEMBLY MK7	0VSA08814
B 415	S BRAKE L SPRING MK7	0VM408556
B 416	M BRAKE T SPRING MK7	0VM408588
B 417	TENSION SPRING MK8	0VM409452
B 418	TENSION PLATE MK6	0VM409451
B 419	BT ARM MK7	0VM303182
B 420	REC ARM MK7	0VM303188
B 421	REC ARM SPRING MK6	0VM407708D
B 425	LOCK LEVER SPRING MK7	0VM408555
B 426	KICK PULLEY MK6	0VM407663B
B 427	KICK SPRING MK6	0VM407701
B 428	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B 460	BT SPRING MK7	0VM408551
B 461	MAIN LEVER SPRING MK8	0VM409494
B 462	PRISM(L2) MK8	0VM409371
B 463	PRISM(R2) MK7	0VM409176B
B 464	CASSETTE DRIVE LEVER SUB ASSEMBLY MK7	0VSA08827A
B 465	INSULATION COVER MK8	0VM303517
B 468	SOFT SPRING A MK7	0VM409214
B 470	TAPE GUIDE ARM ASSEMBLY MK8	0VSA09358
B 471	CASSETTE GUIDE R ASSEMBLY MK8	0VSA09363
B 472	SLIDER R ASSEMBLY MK8	0VSA09365
B 473	SLIDER L ASSEMBLY MK8	0VSA09366
B 474	CASSETTE DRIVE LEVER ASSEMBLY MK7	0VSA08813A
B 475	BT ARM MK7	0VM303182
B 476	REC ARM ASSEMBLY MK7	0VSA08819
B 480	CLEANER ASSEMBLY MK7 (See Mechanical Parts List)	
L 1051	SCREW, S-TIGHT M2.6X6 PAN HEAD +	GPMS9060
L 1053	SCREW PRISM MK7	0VM409038

Ref. No.	Description	Part No.
L 1063	SCREW, S-TIGHT M2.6X4 PAN HEAD +	GPMS9040
L 1081	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
L 1101	SCREW, P-TIGHT 3X10 BIND HEAD+	GBMP3100
L 1151	SCREW, SEMS M3X4 PAN HEAD +	CPM33040
L 1191	SCREW, P-TIGHT M2.6X12 WASHER HEAD+	GCMP9120
L 1321	SCREW, P-TIGHT 3X8 BIND HEAD+	GBMP3080
L 1341	SCREW, P-TIGHT M2.6X8 BIND HEAD+	GBMP9080
L 1342	SCREW, P-TIGHT M2.6X6 BIND HEAD+	GBMP9060
L 1402	SCREW, P-TIGHT M2X6 WASHER HEAD+	GCMP2060
L 1403	SCREW, P-TIGHT M3X10 WASHER HEAD+	GCMP3100
L 1406	SCREW, S-TIGHT M2.6X4 CUP HEAD+	GCMS9040
L 1407	SCREW, S-TIGHT M2.6X8 PAN HEAD +	GPMS9080
L 1450	SCREW, SEMS M2.6X5 PAN HEAD+	CPM39050
L 1451	SCREW:SLIDER R MK7	0VM408853

Mode SW CBA (SWV)

Ref. No.	Description	Part No.
B 422	MODE SW CBA (SWV)	0VSA09408
CL 281	PARALLEL WIRE 2P AWG26/GREY/UL2651	WX1N8002-001
R 281	CARBON RES. 1/4W G 3.6k Ω or	RCX4GATZ0362
	CARBON RES. 1/6W G 3.6k Ω	RCX6GATZ0362
R 282	CARBON RES. 1/4W G 1.5k Ω or	RCX4GATZ0152
	CARBON RES. 1/6W G 1.5k Ω	RCX6GATZ0152
R 283	CARBON RES. 1/4W G 10k Ω or	RCX4GATZ0103
	CARBON RES. 1/6W G 10k Ω	RCX6GATZ0103
R 284	CARBON RES. 1/4W G 22k Ω or	RCX4GATZ0223
	CARBON RES. 1/6W G 22k Ω	RCX6GATZ0223
R 285	CARBON RES. 1/4W G 470 Ω or	RCX4GATZ0471
	CARBON RES. 1/6W G 470 Ω	RCX6GATZ0471
SW 281	MODE SWITCH HMW0420-910010 or	SSR0104HD004
	MODE SWITCH SSS-27MD	SSR0104KB002

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